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### EDITORS.

S. Y. GILLAN,  
Milwaukee, Wis.

R. L. BARTON,  
St. Louis, Mo.

WILBUR H. BENDER,  
Cedar Falls, Ia.

MARY G. EASTMAN,  
Detroit, Michigan.

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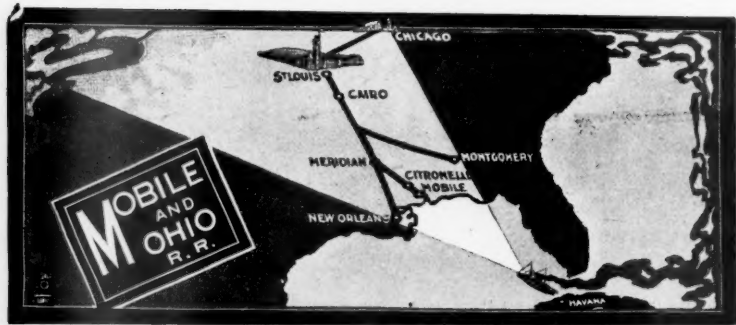
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N. S. SHALER, Chairman

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Vol. XXXVI.

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No. 9



... EDITORS ...

S. Y. GILLAN, Milwaukee, Wis.  
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MARY G. EASTMAN, Detroit, Mich.

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## The Great Meeting of the N. E. A. at Boston, July 6-10.

The meeting of the N. E. A., July 6-10, will be, beyond any doubt, the largest gathering of teachers ever brought together on this planet. The attractions of Boston as a place of meeting are so far ahead of those of any other city in which the meeting has ever been held that it is confidently believed the attendance will be fully

double the usual numbers. It is not likely that during the lifetime of any one now living there will be another meeting to compare with this one. Hence this opportunity to see Boston at its best and to attend the largest educational meeting in all human history up to this date, is strictly and literally "the chance of a lifetime."

President Eliot has determined that all commercialism shall be eliminated from the local management; there will be no local boomers with axes to grind, no selling of space to exhibitors, no advertisements on the program, no demoralization of young boys by organizing a mendicant brigade of guides as was done in Milwaukee in 1897; there will be guides, but the local committee will pay them well, and tips will not be "in good form." A decree has gone forth against all "monkey business" on the program, such as introductory speeches and musical interludes. And yet the musical features of the meeting will far excel anything ever before attempted for any meeting of the N. E. A. and will be more elaborate than for any other convention ever held in Boston. But the musical program will be separate and apart from the other exercises, in a fine, commodious hall about a block away from the general meeting. Elaborate arrangements are being made for excursions to all points of general interest, with guides free and abundant. Harvard University, for the first time in its history, will keep open house during the convention, providing free guides, not only for the Harvard buildings, but for general direction to other points of interest in Cambridge. Special trains will be run daily to such places as require them for the accommodation of the delegates.

The places of historic interest in and

around Boston have been familiar to Americans everywhere since their childhood. Bunker Hill Monument, Old South Church, Boston Common, Fanuill Hall, Plymouth Rock, Lexington, Concord, Cambridge—these are household words familiar to millions of Americans who never have been in New England. These historic places are not all in Boston nor its immediate suburbs, but to Western people the distances will seem short, for the statelets east of the Hudson are mostly little patches, corresponding in size to our Western counties.

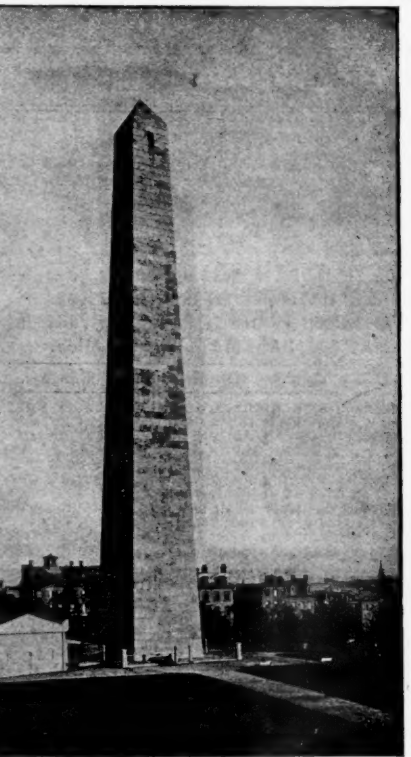
This will be a trip that thousands of teachers will cherish as a pleasant memory ever after, and which will greatly enhance their efficiency in the schoolroom. If to go or not to go is the question, the wise teacher will resolve the doubt in favor of going, even at the sacrifice of cutting out some other pleasure.

#### German in the Public Schools.

Professor Griebisch, in the *Pedagogische Monatshefte*, takes the editor of this journal to task for his utterances anent the teaching of German at public expense. Professor Griebisch gives a clear and fair summary of the recent editorial article in which we pointed out the inherent weakness of Superintendent Siefert's grotesque proposition to require that all public school teachers in Milwaukee should be able to teach German, and then discusses it as follows:

It is not within the province of this article to enter into a detailed discussion of Mr. Siefert's plan. Suffice it to say that we do not favor it. On the whole the system that requires the classroom teacher to teach all the

branches is to be preferred to the departmental system in the common schools. But so far as the teaching of foreign languages is concerned this system should certainly not apply. It does not obtain in Europe even, where foreign languages have been an integral part of courses of study for centuries.



BUNKER HILL MONUMENT.

If, however, he interprets the opposition of our intelligent Germans to Mr. Siefert's plan to mean that they are ready to have the teaching of German abandoned, he is greatly mistaken. Just because our Germans fear a deterioration in the instruction of German they are opposed to this innovation.

We are indeed surprised to learn that Mr. Gillan entertains such peculiar views in regard to the teaching of German. We consider him a progressive man in the field of pedagogy, and therefore can hardly appreciate his position of retrogression.

Everyone familiar with the history of instruction in Germany in the public schools knows that Mr. Gillan's assertions do not rest on facts. The idea that instruction in their mother tongue was offered the Germans as a bait or an appetizer! Has Mr. Gillan ever



heard how the Germans in the large cities of the United States had to fight for concessions in regard to the teaching of German in the grades? The spirit that actuated the Germans at the time of the great immigration is active to-day among most of our Germans, if not among all. There are a great number possessed of the same tenacity and enthusiasm for the preservation of their precious treasure in their new home, and are as willing to fight for it as were the first comers.

But we have here entered a domain of thought into which we would hardly encourage Mr. Gillan to follow. His mother tongue is the English, and he can hardly appreciate what responsive chords are touched when the German hears his language spoken, and why therefore the German-American, while thoroughly appreciative of the importance of the English, nevertheless also clings to the German with all the force of his nature. Indeed as Mr. Gillan justly admits, the German finds no difficulty in mastering the English language. All that the German-American asks is the privilege of keeping up the German together with the English. Surely this will not make him a less desirable citizen, as Mr. Gillan will probably be just enough to admit.

We now enter upon the domain of pedagogy in which Mr. Gillan is a recognized authority. Will he as an educator be willing to deny the value of teaching two languages? For us to defend this instruction here would be like carrying coals to Newcastle. Simply to enlighten him, we call his attention to writings of such men as Alexander Bain, Bayard Taylor, James McAlister, J. B. Peasley, M. D. Learned, David Starr Jordan, Chas. W. Eliot, D. C. Gilman, W. H. Maxwell and W. T. Harris, our commissioner of education, who introduced into his last report a comprehensive discussion on the teaching of German. We are convinced that the bilingual instruction beginning in the first grade and continuing through the grades is a pedagogical necessity. We also venture the opinion that German should be the language to be taught with the English, not because of the fact that a large part of our population are of German descent, but because the German language from the standpoint of literature in its broadest sense, is the modern culture language. Mr. Gillan willingly accords to German this claim in the high school, and only a sophist confusing the practical with the culture value could reach the conclusion that the Spanish language is of greater practical utility than the German. To settle this question it would be necessary to know statistically the number of people who need the Spanish in business as compared with the number who need the German.

The bilingual public school is the school of the future. Wherever it is introduced the best results follow, and English certainly does not suffer thereby. Mr. Gillan may be right in his assumption that the time allotted to the teaching of German is too brief. If now he would champion the idea of securing more time for this branch the results might induce him to change his attitude to the general question of

the advisability of teaching German in the grades of the public school.

We pass over the *argumentum ad hominem* in the above; and touching the interesting bit of pathos (or is it humor?) embodied in the plea for the teaching of German because of those "responsive chords" that vibrate in the German's soul at the sound of his mother tongue, it is sufficient to say that the plea could be made with equal force by the Italians, Poles or any other class of foreigners. Or are we asked to believe that the Germans have a special affection for their mother tongue that distinguishes them from other peoples, or that it is so much more euphonious as to make it *sui generis*? If so, it is in order to ask which one of the various German dialects has this magical potency as it strikes the ear, for it is a well-known fact that vast numbers of the Germans in this country find it very difficult to understand their fellow countrymen; they speak "a various language." The Professor would hardly advocate the teaching of any but classic or high German in the schools, but to the majority of the Germans in America the pure or high German is hardly familiar enough to touch responsive chords.

Notwithstanding the fanciful picture which the Professor evidently has in mind of a "fight" which resulted in putting German into the elementary schools as if by the establishment of a right through some victory won, and which he thinks may be repeated to keep it there, the fact remains that German was not introduced into those schools and does not remain in them on any other ground than that of expediency, or as a concession or accommodation of public policy to a temporary order of things. The question of rights does not enter at all, and as soon as the temporary conditions that seem to justify it pass, the teaching of German in elementary grades at public expense will be discontinued. The example of St. Louis in abolishing German in the grades will be fol-

lowed by several other cities in which its continuance holds by a precarious tenure.

The propositions that "bilingual instruction in the first grade and continuing through the grades is a pedagogical necessity," and that "the bilingual public school is the school of the future," would be amusing if they were not put forth with such evident sincerity. Does history afford an instance of a great nation, the masses of whose people used two languages? We must not forget that the American public school is for the masses, and that only a small percentage of the children ever reach the secondary schools. The contention that German should be taught in the grades because of the richness of its literature is mere moonshine. The English, or any one of a half dozen other modern languages affords vastly wider fields of literature than the average man ever has occasion to explore.

Some of our fellow-citizens of foreign birth seem not to appreciate the vital distinction between immigrants and colonists. A group of people settling in a new habitat as a colony carry with them their *penates*—language, traditions, customs, habits of living; they maintain their identity as a people and the characteristics of the mother country. But the immigrant who becomes naturalized in very fact, as well as by legal form is not a colonist; he has once for all cast his lot and that of his descendants to future generations with the country of his adoption, which becomes the native land of his children, and by the inexorable, yet beneficent force of natural laws his children sooner or later lose the former national characteristics and are assimilated to the new. Yet the immigrant would be either more or less than human who could suddenly make a change so profoundly important; we must make due allowance for a period of transition. At the best the severing of old ties is somewhat painful, and the more so in the case of the immigrant who must learn a new language. Hence kindly, tolerant consid-

eration is due to those who cling for a time to the fond illusion that two languages can be permanently maintained in America; and during the transition period it may be well enough to let the first generation of immigrants indulge that hope. Their children will see the matter with clearer vision.

The call for statistics in regard to the comparative practical value of German and Spanish is easily answered. Germany has a population of about 52,000,000. The combined population of the countries in which Spanish is the prevailing language is about 75,000,000. We have diplomatic relations with sixteen independent governments of which Spanish is the legal language, to say nothing of our recently acquired possessions. The argument on this basis would seem to stand 16 to 1, in favor of Spanish.

As to the business utility of the two languages, exact commercial data are not at hand. Probably a great preponderance is in favor of Spanish; but this is a matter of comparatively small moment, for English is the language of business the world over.

The array of authorities cited for our "enlightenment" is not so overwhelming as it may seem. Two of them are not recognized as educators at all; three are eminent scholars who have written approvingly of the study of German as a part of a liberal education, but not on the subject under discussion; two, possibly three, rank high as students of the pedagogy of elementary instruction, one of them, Dr. Harris, very high. But the reference to Dr. Harris by Professor Griebisch was very unfortunate for his side of the argument. We give below Dr. Harris's comments on the report to which reference is made. The only difference between what he says and the argument made editorially in the February number of this journal is that he has expressed it more fully, emphatically and forcefully than we did. It will be observed that he takes no note of the supposed pedagogic value of teaching

two languages; he justifies the teaching of German on the ground of expediency alone; the purpose is to Americanize the Germans; to "lure them to participate in our best civilization"; he looks upon it as a means of inducing the Germans to learn English, and gives it no word of commendation as a good thing *per se*, to be learned for its own sake; and in the last paragraph he clearly points out the fact that the teaching of German is a temporary makeshift to smooth the asperities of the situation; that Fritz having a language to get rid of requires more time to become Americanized than do Pat and Sandy, who are not thus handicapped. Here is what Dr. Harris says. The italics are ours:

GERMAN INSTRUCTION IN AMERICAN SCHOOLS.

All school education at public expense demands for its justification the existence of some political necessity which it provides for, or the existence of a general want in society for the supply of which the system of education serves a useful purpose. Thus our common schools are generally supposed to provide voters who can not only read the ballots which they cast, but also read the political discussions in the newspapers and form an intelligent opinion on the political issues which their ballots shall decide. Without such ability to read on the part of its citizens the right of suffrage is a mockery. The citizen is supposed not only to cast an intelligent vote for the election of his lawmakers, but also to be able to read the laws made to govern him. The ancient and necessary ceremony of publishing laws by the mouth of the herald, who read them in public places to the people, is abolished, and yet people are held responsible for a knowledge of all laws enacted, it being assumed that every person can and will read the laws. There is a still further assumption that ordinary citizens shall be able to serve their turn as legislators, and make laws, as well as elect others to make them.

Unless the State does injustice to the poor class it will give all its children a chance to learn how to make laws as well as how to obey them. *No class of citizens can claim as a right to have any other language than the language of the govern-*

*ment taught in the schools at public expense*, yet the fact that they have a right to retain the use of a foreign language *and to educate their children in private schools to use that language alone*, and the further fact that a class of citizens do in fact exercise this right, may make it *expedient and desirable that such a language be taught in the schools at public expense*, provided that by this means great social and political advantages result to the community as a whole; the community has the right to teach any modern language in its schools if it finds it expedient to do so.

The expediency of introducing German-English instruction into public schools is the question to be decided, and not the question of the legal right to do so, *nor the question of the right of a class to demand it*. It is generally recognized by the people of the United States that immigration into our territory is a good and desirable thing. Inducements have been and are held out to foreigners to settle in America. The territory at first a wilderness becomes a populous and civilized State through the agency of foreign immigration. The conversion of natural possibilities into actual wealth is accelerated. The immigrant is bettered in circumstances by coming here, and still more is the native citizen benefited by the creation of wealth through the rise in the price of land and its sale to the immigrant, and secondly, through the profits of traffic with him, and thirdly, through a share in the increased production which the immigrant contributes.

But this direct benefit may be counterbalanced to a greater or less degree by the fact that the immigrant is a citizen not only with social rights, but also with civil and political rights. He can choose lawmakers for the natives; more than this, he can be elected to make the laws. *If he has not absorbed the spirit of our institutions and come into sympathy with it, if he has not learned how to perpetuate our institutions as a lawgiver, he will foist upon us parts of foreign laws and institutions*. If he is ignorant even of the institutions of his native country, he will be a still worse element in our politics and will seek narrow, selfish advantages under the banner of the demagogue whom he will aid to corrupt our politics and rob our public treasury.

It is all important, therefore, that the immigrant shall be educated in our best institutions and "Americanized" in the spirit of our free intelligence. Otherwise he certainly will be "Americanized" by the worst forms of our political corruption. This is not a matter of choice between two different courses of action. *If we do not "Americanize" our immigrants by luring them to participate in our best civilization and to adopt an enlightened social intercourse with us, they will contribute to the degeneration of our political body, and thus de-Americanize and destroy our national life. If we allow them to grow up in ignorance, they will lower the standard of political honor and intelligence. If they establish schools of their own and even achieve a high culture in them, as Germans have done when they have refused to enter our public schools, still they may lack training in the spirit of our special forms of government, and being educated into foreign ways of viewing and acting, they are all the more incapable of rightly judging public exigencies, of understanding the motives of, and sympathizing with, the native population.*

The more highly cultured and civilized the immigrants that come to our country, the more stubbornly will they hold to their own manners and customs. Hence the very qualities which should make them desirable from the economical point of view may make them dangerous politically. Under all circumstances it is desirable that the immigrant shall be educated in the same schools with the native population if he is to have and exercise political power. *Acting upon this principle, most of our cities east and west having large proportions of German population, have adopted at one time or another the study of German into their public schools.* The immediate effects justified expectations. Large numbers formerly taught by foreign teachers and in private schools *came into public schools, and while learning some German have learned much English,* to their great future benefit and to the great benefit of the native population. Every year has witnessed the breaking down of barriers of caste in those cities.

The public school is the instrumentality designed to preserve democratic principles. It protects one class against another by giving an opportunity to become intelli-

gent and virtuous. An aristocracy built on the accident of birth, wealth or position cannot resist the counter-influence of a system of free schools wherein all are given the same chances. To eradicate caste distinctions in the community is the most important function of the public school. Homogeneity of population is the great desideratum for free institutions, but it should be homogeneity on the basis of educated intelligence, but not of illiteracy.

No public institution is established on a firm foundation so long as it is beneficial only to a small class of the community. The introduction of German into the schools makes them useful to a greater number, and hence more stable. The thorough mingling of the populations has produced a very rapid assimilation. The German children in the public schools are as thoroughly American in sympathies, views and aspirations as the Anglo-Americans. *The influence of the schools largely reacts upon the parents through the children, and where formerly German was spoken altogether by parents and children within the family, now both speak English to gratify the strong preference of the children.*

For a long time after immigration the immigrants keep a relation with their kindred in the mother country. Our population in the Northwestern States keeps up correspondence and recognizes the family ties that exist with the people in Great Britain and Ireland, Germany, and the Atlantic States. No difficulty is experienced by the Anglo-American settler among us in this matter. But the German-American is obliged to learn two languages. For if his children learn English only *there must be a too sudden and abrupt breaking off of the continuity of race,* and a consequent great evil wrought upon the character. The consciousness of the history of one's ancestry, and the influences derived from communication with the oldest members of one's family, are very potent in giving tone to the individuality of youth and ripening age. This continuity of history is a kind of solid, substantial ground for the individual, and from its soil spring up his self-respect and aspiration. A class of immigrants who had no desire to preserve a relation with their family stock would bring calamity upon the community into which they came.



# The Institute.

S. Y. GILLAN, CONDUCTOR.

## Frictional Electricity

PROF. C. P. SINNOTT, STATE NORMAL SCHOOL, BRIDGEWATER, MASS.

(7.) To test either kind of Electricity. It has already been shown that like electricities repel and unlike attract. This principle is used in determining the kind of electricity in a body. The electroscope shown in Fig. 36 is best employed for this. Electrify a piece of rubber by means of flannel as in previous experiments. Bring it near to the disc of the electroscope so that the leaves diverge, and while holding the rubber in position touch the disc with the finger, thus causing the leaves to drop together. Remove the finger *before* the rubber. When the rubber is removed the leaves will again diverge and remain so if the electroscope be well constructed. In this condition the electroscope is said to be *electrified*. Should the leaves gradually fall together the probability is that the cork does not perfectly insulate or possibly, the disc has points upon it which make

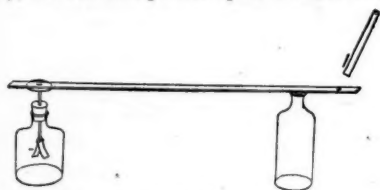


Fig. 38.

it possible for the electricity to escape. These defects can be easily rectified. While the leaves are standing apart approach the disc with a body known to be negatively electrified; the leaves will fall together. If the positively electrified glass rod be brought near the disc the leaves will diverge. If now a body containing an unknown kind of electricity be brought near the disc and the leaves diverge, the electricity is positive and if they drop together it is negative. Test the electrification of as many substances as possible.

From a piece of copper, tin or zinc plate,

cut an ellipse about two inches long, round the edges with a file, and by means of a piece of wax, fasten it to the end of a piece of straw or a glass rod eight or ten inches long. This we will call a *proof plane* or *carrier*. Rub this piece of metal over the electrified rubber, and bring it near to the electrified electroscope as described above. The leaves will drop together, thus showing the electricity in the proof plane to be the same as in the rubber. In the same way take the electricity from the electrified glass. This proof plane will be found very useful in the further investigation of frictional electricity.

## (8) Provisional Theory of Electricity.

Much is known as to the effects of electricity, but little is *positively* known as to the force itself. It will be convenient, however, for us to assume that every body contains, in equal quantities and equally distributed, the two kinds of electricity. We say that the body, under these conditions, is in electrical equilibrium. Whether this electricity is a fluid or the result of molecular motion need not concern us in this connection. When a piece of glass is rubbed by silk we may assume that the silk pulls the negative electricity off the glass, leaving the glass with a predominance of the positive, or, as we say, positively electrified, while the silk, of course, will be in the opposite condition. The nature of the electrification of the silk can be tested by the use of the electroscope as already described. This can best be done by making a close pad of the silk and vigor-

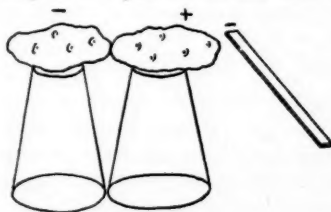


Fig. 39.

ously rubbing a pane instead of a rod of glass, quickly approaching the disc of the electroscope with the rubbed surface of the pad.



(9.) *Induction.* Rest one end of a moistened rod upon the disc of an electroscope and the other end upon a bottle. (Fig. 38.) Electrify a body and approach the end of the rod that rests upon the bottle, but do not touch it. The leaves will diverge, thus showing that the stick has become electrified by bringing another electrified body near it. This process is spoken of as *induction*. Bring a pane of glass between the ends of the rod and the electrified body. Does it act as a screen to prevent induction? Try other substances than glass. By the application of the law of attraction and repulsion is there any easy explanation of the facts observed in these experiments?

In this connection the following experiment will tell us much: Invert two dry tumblers and place them side by side so that they will just touch. Upon each place a smooth potato, apple or orange, so that they will be in contact with each other. (Fig. 39.) Bring an electrified piece of rubber within about an inch of one of the potatoes and while still holding it there,



Fig. 40.

separate the two tumblers by a foot or so, being careful not to touch either potato with any part of the body. Now charge the electroscope with a *known* kind of electricity, touch the farther potato with the proof plane used in the previous experiments and bring it near the disc of the electroscope. It should show the presence of negative electricity and the other should show positive. Repeat the experiment using the electrified glass rod in place of the rubber. The potatoes will then show the reverse conditions of electrification. Separate the two tumblers by three or four feet and connect the potatoes by a metal chain or wire, fastened by means of pins. (Fig. 40.) Bring the electrified glass near

one of the potatoes and while still holding it in that position touch the opposite side of the potato with the proof plane and determine the kind of electricity taken off. (Fig. 41.) It will be found to be the same

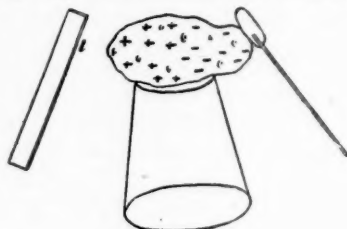


Fig. 41.

kind as that in the rubber. Again approach the potato with the electrified rubber and while holding it near touch the side next to the rubber with the proof plane and determine the kind of electricity on that side. It will be opposite to that in the rubber. Care should be taken, in all these experiments, not to bring the electrified body so near to the potato as to produce a spark. From this experiment we see that when an insulated body, as the potato in this case, is approached by an electrified body its two kinds of electricity are separated, that which is like the electrified body being on the opposite side. We say that the body in this condition is *polarized*.

Do these facts explain why the rod, resting upon the electroscope and bowl was electrified by the approaching rubber? Could you determine the kind of electricity in each end of the rod?

In the above experiments, if the metal-leaf electroscope cannot be conveniently obtained, suspend a small pith ball by a silk thread, bring it in contact with a highly electrified body. It is at first attracted, but after contact is repelled. It can then be used as an electroscope as one kind of electricity will attract and the other will repel it. The metal-leaf electroscope, however, is so superior to the pith ball that it should be procured if possible. Vary these experiments in as many ways as possible.

**The Moral Phase of Education.**

State Superintendent Barrett, in a recent address to the Central Iowa Teachers' Association on the above subject, gave some striking accounts and statistics of crime and criminals. The picture presented was rather gloomy, but Mr. Barrett's view of the situation was not wholly pessimistic, for he looks to the public school as a possible remedial agency. Mr. Barrett said in part:

Moral principles must be applied to the needs of life every day and almost every hour. "The product of the sum and difference of two numbers is equal to the difference of their squares," is a sort of knowledge that the average man may not use in a practical way once a decade, and some go through a life spanned by three-score years and ten without having heard of the theorem; but man should and must constantly exercise the moral qualities of justice, courage and kindness. To estimate the exact cost of a sub-way in New York or a drainage canal at Chicago is of occasional value to a few, but the masses should be taught the right. The man who shoes a horse or sells goods over the counter must tell the truth oftener than he drives a nail or makes change. The lawyer should know the moral law and practice it more than he does the common or statute law.

During the period of twelve years that the youth spend in our schools such a sense of right, justice, law and authority should be inculcated that reaching man's estate, each may be a god-fearing, law-abiding citizen. Taxes will be reduced, citizenship elevated, municipal jobbery and corruption less frequent if a higher moral spirit can be made to permeate the schoolrooms of the land. That it can be brought about is the conviction of many. But intellectual and moral training cannot be placed on the same level. The intellectual may be considered the stepping stone leading to the moral.

Moral training may be termed will training. Each child has been endowed with a will to follow a right or wrong course of action. He may have a knowledge of the right, but it is left to the will to determine the course of action. Children should be taught to think, to reflect.

The presentation of two alternate courses calls for thinking—an exercise of the reflective powers. To reflect whether it is desirable to gain satisfaction at the cost of some penalty, or which of two pleasurable needs is the more valuable, implies that the mind for the moment has mastered the tendency of impulses. When this first step is secured the mind has to compare the two needs, one with the other. It is then that the moral judgment is used to compare and measure things in respect to their bearing on the individual's happiness.

The outcome of this deliberation is a decision in favor of the thing the mind judges more worthy. The use of the powers of reflection lead to self-control, which all believe to be essential to the right education of children. Lack of self-control is the chief cause of the greatest percentage of crime. The boy who breaks into the money drawer lacks in a high degree the element of self-control. His will power has not been sufficiently developed.

The processes of deliberation and control attain perfection only when fixed by the law of habit. To teach the child the habits of regularity, punctuality, neatness, courtesy, kindness, forbearance and charity, is to develop in him strong moral tendencies. The school as a social community affords training in the social virtues of courtesy, kindness, forbearance and charity. It may be regarded as a civil community in which all members have equal rights. Children should be taught that some of the moral responsibilities of the school rest upon them, and not alone upon the teacher and those charged with the control of the school.

Pupils dislike lectures on abstract subjects, and daily lessons in morals would, it is believed, soon become distasteful, and more harm than good be accomplished. Dr. Arnold Tompkins well says that "morality is not something added to man; it is man"; so morals is not a part of a course of study; it is the course. A watchful teacher will find abundant opportunities for lessons in morals. The good done by a word spoken at the right time cannot be estimated. The various subjects taught in the schools present many excellent opportunities for giving right instruction in morals. A wise teacher of physical geography may see an opportunity to call attention to the Bible as a book of science.

In geology the teacher may keep the Mosaic account of the creation of the earth in view as an example that science instead of contradicting only proves the Bible account of the creation. The common animals and plants illustrate nearly every virtue, industry, foresight, fidelity, gentleness, modesty and courage. The beautiful in nature is a winning invitation to the beautiful in deed and in life. In the study of literature pupils can scarcely avoid being influenced for good as they are led by the skilled teacher to come in contact with the best thoughts of great minds. Then they will be influenced to noble needs by the lofty sentiments expressed by great writers. History is only an account of the human spirit striving through the ages of the past to find the truth. Civil government may be used to teach the children patriotism and love of country.

Knowledge is said to be power; but no amount of intellectual knowledge alone can so stimulate pupils to right living as the heart power of the teacher who cares for his pupils.

Mr. Barrett is clearly right in the contention that the inculcation of right habits that comes even from the mere routine or machinery of a well kept school is a valuable training. We are puzzled, however, to understand some of his statements, as, for example, his definition of history, or how that conception of history would promote the teaching of morals. Why a decrease of taxation should be named as one of the fruits of civic virtue is not clear. Taxes are not high in Central Africa. If taxes were honestly and judiciously applied to proper ends a greatly increased tax rate would be a blessing to any community. For example, it would seem that god-fearing men should have the courage to vote a high enough tax rate to support the schools better than they are now supported.

Against Mr. Barrett's suggestion to science teachers we enter a most emphatic protest. We can scarcely conceive of a more subtle or insidious form of immorality than for a teacher of physical geography or geology to deal in the sort of

casuistry which Mr. Barrett recommends. To say that morality can be promoted by teaching any particular theory of creation, or by teaching that the Bible is a book of science, is to juggle with the words morality and science; and to attempt thus to teach would be to juggle with facts well established by modern research and admitted by modern theologians. To give a bias to the teaching of science for the purpose of supporting medieval conceptions long ago rejected by scientific students and biblical scholars would be to practice a deception quite out of keeping with the demands of strict morality. As to the teaching of virtue through the example of animals and plants, this use of the word virtue would sap it of all its vitality and leave it a meaningless term no longer usable in a discussion touching human motives.

If we have misinterpreted any of Superintendent Barrett's positions, we hope he will elaborate his doctrine of moral training more fully and definitely. S. Y. G.

#### A Duty of Home and School.

Dr. Hillis, in his book, "The Quest for Happiness," says:

"No parent has done his full duty to his child unless during the years before sixteen he has given the child's mind as a precious memory forever the great patriotic hymns of home and native land, the folklore hymns of his race, the great classic hymns that sing of man's need and the pathos of God's love, the sublimity of immortality and mystery that lies beyond."

The responsibility for doing what Dr. Hillis here recommends falls upon the school even more than on the home. But the duty of thus training the children is also a pleasure, as those know who have introduced the singing of familiar rote songs. Many hundreds of teachers have found that the little red-covered song books lighten the burdens of the school-room by introducing good cheer. The Western Teacher Song Book has for the past half dozen years been a veritable missionary influence in this respect.

### The Specialist as a Teacher.

This journal has frequently expressed the conviction that in recent years there is too great a tendency among high school principals to select specialists in the various branches as high school teachers. This tendency is an outgrowth of the departmental system of apportioning the work in large high schools. It is well that a teacher should know considerably more than he is required to teach; but one who has "specialized" in a narrow field and is intensely enthusiastic concerning the studies of his choice, seldom has that equipoise which is so necessary to make a well-balanced teacher; his vision is too narrow to afford a correct educational perspective.

J. W. Abernethy, of Brooklyn, writing on *Specialism and Culture in the School Journal*, has this to say about the specialist:

The scientist has taken possession of the processes of education. The scientific attitude of mind is the only attitude of mind that is regarded as "scholarly." Scientific method is applied to every subject, to history, art, ethics and poetry, quite as much as to physics and chemistry. The enthusiasm for learning is the "divine afflatus of the truth seeker" with which Huxley was inspired, truth being, according to Huxley, that which can be tested by the retort and crucible. Specialists occupy the instructors' chairs in the higher grades of educational work, and make the textbooks for the lower grades. Indeed, their work is the only work that commands the respect of "authority." Fresh from the university, *seminar*, and filled with the zeal of the discoverer that easily magnifies molehills of fact into mountains of significance, they pour forth their technical and esoteric information into the astonished ears of young students, whose minds are totally unprepared for grasping or comprehending the true value of such information. Such teachers, instead of educating, are confounding and paralyzing young minds. Recitations consist of learned talk from the teacher and timid repetition from the pupils of a few unrelated facts that the discouraged memory

has been able to seize upon. Specialists are sometimes years in learning the simple pedagogical principle that there is as much wisdom in knowing what not to teach as in knowing what to teach; and some never learn it at all.

The clever essayist, Gerald Stanley Lee, remarks that "educated people to-day may be divided into two classes, distracted people and specialists." Both classes are dominated by curiosity. The curiosity of the specialists is concentrated and restrained within the limits of a single subject or professional aim; that of the distracted people is the curiosity that listens with eager ears for the learned gossip of the world. The one class would know everything about something, and the other would know something about everything. Either attempt is fatal to the higher purposes of knowledge, whether in its application to the individual or to society. These two types of mind in the schoolroom are about equally deplorable. Courses of study are loaded with subjects until the young minds are in a confused whirl with cramming of impressionless details that have no more permanent significance than do the newspaper headings with which we cram our minds twice a day. On the other hand, the specialist would narrow the vision of educational interest to a focal point not far removed from the immanent materiality of everyday life. "The world is too much for us." We are kept too near to earth by the burdensome pursuit of concrete things. It should be the inspiration and the aspiration of the teacher to reveal to young minds a little of the heaven of ideal things.

As a result of the many materializing conditions of life and especially the immoderate adoration which society gives to the millionaire, extravagant emphasis is placed upon the so-called industrial, commercial, "practical" elements of education, and instruction is judged by its money-producing power. So the specialist often attempts to make his specialty practical by making it profitable. "Grant that the knowledge I get may be the knowledge that is worth having"; such, says Matthew Arnold, "is the spirit of the prayer that should rule our education." And by worth we know that he does not mean power to purchase yachts and opera boxes. "Culture," says John Addington Symonds, "is



the ability to appreciate the relative value of all kinds of knowledge." It would be well if this definition were inscribed upon the walls of every classroom occupied by a specialist.

#### Supervisors or Clerks?

In all the discussion of school administration that is going on in these days, one very important subject seems largely to be overlooked. Few persons seem to realize the vast amount of purely clerical labor that is done by superintendents and principals of schools. It is unfortunate that supervisors themselves do not always seem fully to appreciate their true functions and cease to be in a large measure mere clerks. In most cases the head of the school struggles with clerical details, which quite unfit him for the performance of his proper duties and consume time that should be used to better account.

There is a large amount of correspondence relative to supplies, courses of study, methods, books, and teachers. There are temporary and permanent records to be made in connection with the library, apparatus, examinations, and students. Many reports are required each year by officials—local, state and national. Bulletins, circulars and catalogues must be issued. Nor can these duties be ignored, if the school is to be well administered. The present school organization requires these things, and modern business methods demand them. But when the clerical parts of all these office details have been looked after by the principal in person, what time has he left to move about among teachers and pupils, observe and improve the quality of the teaching, modify the spirit and tone of the school, and become acquainted with the interests of the community as he should do?

It ought to be apparent to superintendents and principals and also to boards of education, that a community cannot afford to have the head of its public school system tied down to an office desk. In the

first place, very much of this kind of work commonly done by him could be better done by a clerk at one-quarter of the cost. But more than this, the school should not under any circumstances be deprived of the thought and energy of its supervisor directed constantly and wholly toward the accomplishment of its highest ends.

No good commercial house would permit its manager of a business involving thousands of dollars and employing a score or more of trained assistants to spend a considerable part of his time at the merest routine work.

School men should realize, too, that school supervision will never take rank as professional work so long as they are content to do the duties of an office hand.—*American Education.*

#### Tin Gods.

Superintendent F. W. Cooley, of Evansville, Indiana, touches up some common failings of teachers in a good-natured and forcible manner in a contribution to the *School Journal* under the above caption; he hits a wide variety of foibles and idiosyncrasies that teachers will do well to avoid. Superintendent Cooley says:

A tin god is anything of comparative insignificance, but which is given undue prominence. The worship of tin gods is harmful because it is a false worship, and crowds out of the mind other things which would be, if given an opportunity, a source of strength, and which might lead to growth and progress. The presence of tin gods blinds the vision, deceives the worshiper, and dwarfs the powers.

Tin gods are not confined to the teaching profession. They may be found in all professions—in all walks of life. Indeed, few individuals are without them, and no one, without a critical search of self, should imagine himself exempt. Among teachers, the most prominent tin gods are:

(1) Scholarship earned at the normal school, college or university. Some people worship learning acquired under these



conditions to such an extent that they grow to think that there can be no scholarship worthy the name unless it be associated with some institution of learning, and often it is a particular institution. Institutions of learning are helpful, and almost always necessary, and some far exceed others in their usefulness, but the tin god notion is that learning and the place of understanding can be found nowhere outside the walls of an institution devoted to this purpose. Some of the brightest minds, some of the most scholarly persons, have never seen the inside of a university.

(2) The degree fashion is another tin god. Degrees are desirable, and it is a worthy ambition that prompts a person to go through learning's maze in order to secure a degree, provided scholarship, culture, and mental power are the ends sought, and not the degree; also provided the attainment of the degree is not the end of research, of study, of progress, and growth. The false idea is that a degree is an indication that the end has been reached, and that there is henceforth to be a cessation of effort. The following expresses this idea:

I sing of a man called John Smith—  
A name many people are satisfied with—  
But he wanted, you see,  
A quite modern degree,  
So he sat in the shade of a college tree,  
And he came back, John Smith, A.B., D.D.,  
Ph. D., LL.D.

"Alas!" sighed poor Smith, "I can see nothing more  
In the line of degrees. My ambition is o'er."  
But the public in glee,  
Made a quick repartee,  
And tied to the east of his latest degree  
A very suggestive N.G.

(3) The diploma, state certificate, or even the third grade license are often tin gods that block further progress on the part of many young men and women.

(4) Conscientiousness is sometimes converted into a tin god. This is usually overlaid with gold leaf—possibly it may be simply washed with a dilute solution of gold, or it may be that the tin is so highly

polished as to dazzle the eye of the worshiper, who imagines that by paying homage to it the very truest service is rendered.

Conscientiousness is desirable, but it should not be one's whole stock in trade, for one whose mind is constantly centered on self is usually dead to all other considerations, and commits a thousand errors, if not sins, while bending before this god. Some people stand so straight that they bend backward. It is quite noticeable that the worshiper of this tin god will often bear watching when the real things of life press upon him. Like the man who places himself upon the house top and cries to every passer by—"Behold an honest man!"—the world rightly watches that fellow when he descends.

(5) False dignity is another tin god. I am inclined to believe that this god is more often found among teachers than in any other walk of life. False dignity, among teachers, is often assumed in order to impress the young with the importance of position, learning, power and authority. Does anyone think the youngster is deceived? His eye readily penetrates the gauze.

(6) The tin god of "personal rights" is often found among teachers. This idea seems to fill the whole mental horizon of some teachers,—“This is my right, and shall I not maintain it? This is my just due, and shall I not demand it? This is my exclusive privilege, and shall I not exercise it?” This is one of the tinniest of tin gods, and the homage payer's strongest characteristic is disagreeableness.

(7) People who are known as policy people are worshipers of a tin god. Such people pride themselves on never committing themselves—on never being found positively or negatively anywhere. They seem to think that there is a peculiar virtue in being upon the fence. They pride themselves that they never offend—forgetting that they are never of any service to

themselves or to the world. Such stand idly all day in the vineyard, not because no man hath hired them, but because their own eyes being centered upon this tin-god policy, they occupy their time exclaiming to themselves: "What will the world say? What will my friends think? What will my enemies do? How can I avoid brushing against this influence? How can I shield myself? How can I be all things to all men?" Such people have no real value anywhere; friends cannot count on them, and enemies neither respect nor fear them. They often pride themselves that they do no wrong. Well may it be said to all people on the fence: "Get positively somewhere—get off the fence—fall off if necessary, it matters not which side, only so you move definitely and positively somewhere, so that your friends may know where to find you."

(8) Method is sometimes a tin god—this is true when a teacher becomes tied to a certain, fixed method, to the exclusion of all others. Method is but a device, a way of doing a thing. Methods vary—principles never. To tie to one method is to worship a tin god.

(9) A compliment often becomes a tin god. Many teachers have ceased to grow because some one, at some time, told them they were good teachers, and for years they have been giving this notion too prominent a place in their minds and hearts, to the exclusion of all possibility of growth.

Tin god worship is such a snare that it may well employ the attention of us all, to be certain that we are not in this company of worshipers. To all tin god worshipers there will, doubtless, come a time of awakening—a time when there will be a realization of the barrenness of such worship.

"Pleasant it is for little tin gods,

When great Jove nods:

But little tin gods make their little mistakes,  
In missing the hour when great Jove wakes."

What is the remedy? Study self in the first person, singular number. Destroy

the foundations upon which rest all tin gods. These are selfishness, love of praise, narrowness—possibly bigotry, lack of ambition—shortsightedness.

Having destroyed these, erect a new temple—an educational temple. Enthroned within an ideal based upon human sympathy, deep as hope, and as far reaching as the supreme aspirations of the soul.

#### Notes by the Way.

BY S. Y. G.

In Oregon the State Teachers' Association meets in sections, alternating between the two divisions of the State, east and west of the mountains. Instead of a program made up of addresses, papers and discussions such as is presented in many State associations, a combination program is arranged, consisting partly of such exercises and partly of institute class work. Indeed, the association meeting constitutes the regular teachers' institute for the county in which it is held. This gives a wider diversity of membership than the other plan. At La Grande I worked in a meeting of this kind for three days, including one evening; the teachers of Union County were nearly all present and about an equal number from the other parts of eastern Oregon, besides many citizens of La Grande, who were present at the evening sessions.

In going from Portland to this meeting the trip was made partly by the famous Columbia River route, and it so happened that the day spent on the river was the only clear day that occurred during my stay of two months on the north coast. The scenery from the river is grand beyond description. One who passes through the great gorge cut through the mountains by the Columbia and sees the many waterfalls that pour down from the glaciers, will understand why these mountains are called the Cascade Range. One of these cascades, Multnomah Falls, is about 800 feet high and thirty feet wide; seen from the boat it appears about four feet wide. Two

years hence large crowds of people from the east will visit the Lewis and Clark Exposition at Portland, and this magnificent piece of river and mountain scenery, already famous, will thenceforth be much more widely known. No one who visits Oregon should miss the Columbia River trip. The O. R. & N. trains afford also fine views of the same scenery, second only to those from the boats, and the train service is the very best.

#### SPOKANE.

A stop of a day at Spokane, on invitation of Superintendent Saylor to address the teachers there, gave opportunity to see one of the finest cities of its size to be found in the new Northwest. Spokane is on the border line where the industries of plain and mountain meet. To the west, wheat and stock raising, to the east the precious metals and lumber, in the city itself immense water power—a magnificent combination of material conditions to make a city. The active, enterprising population that has centered there makes the development of a flourishing city a matter of manifest destiny. Solid blocks of business buildings, many miles of well-paved streets, good schools, and substantial public buildings attest the spirit of the people.

#### The Letter and the Spirit.

Miss Coleman was a thorough teacher of the text-book: it was well-known that the old books of the "F" grade were worthless at the secondhand book store, and at the depots of free distribution as well. Every "F" grade pupil hated school with a passion that was enthusiastic, and some of the observing parents said the children were never able to image the facts that she taught them. She never made them see or even encouraged them to look for the living object behind the symbol. Miss Coleman always insisted that there was no poetry in teaching.

The morning that the new boy entered, the skies were leaden; the atmosphere of

the school was gray; and the black gown of the teacher intensified the shadows. At his quiet entrance the children of "Group B" looked up from their spelling words uneasily. Something forbidden was taking place! Wasn't somebody admitting a stray sunbeam, or a reflection of the rich colors of last October's woods? No! It was only Cyrus Moore's red head and blue eyes that caused the atmospheric vibrations. They stared at him curiously; he was a strange boy who belonged to the new doctor's family. He returned their stare frankly, and sat down at a vacant desk.

Group A was reciting geography; the books were closed and laid in an orderly heap upon the teacher's desk. There was a big globe in the corner, but the dust lay thick upon its surface. It could be rotated upon its axis after the manner of the earth, but nobody ever experimented with it. There were no relief maps in sight, but a large flat map hung upon the rear wall. The winds howled past the windows, but no one told these students of the earth's surface that those noisy forces were the mighty Cold Currents, victorious for a time over their rivals, the life-giving Equatorials. There was an ice-bound brook in the ravine behind the school, but the grade had never guessed that it furnished the clue to the annoying water-sheds, river basins, river systems, islands, capes, peninsulas, detritus-deposits and other geographical miscellany which seemed utterly meaningless. A boy was naming the oceans: "Artic, Anartic, P'cific, 'Lantic, an—"

In the pause that ensued, the new boy cried excitedly: "I know oceans! I've seen one, and"—a far-away expression came into his blue eyes, and his voice grew dreamy—"once I was crossing over in a big ship, and we came to a little island and there were caves in it, and a big mountain that was all blazing and smoking, so that it nearly fell over into the water!"

While Cyrus was regaining his breath,

the children stared at him with fascinated eyes. The teacher looked stern: "How long has it been since you crossed the sea, Cyrus?" She knew that the Moores had lived all their lives in the next village, and had never been near the sea. The child had simply imagined the whole story.

The little boy looked puzzled for a moment, and then replied: "Oh, why, Mr. Andrew, our teacher, went first and he saw the island and the mountain, and then I went!"

He had followed the teacher's travels so intently, seeing all that he saw, that he had come to believe that he had really seen for himself the things described.

The number work was placed on the board, and the "A" group took up their pencils apprehensively; number work was the worst dragon that made its lair by the side of the road of knowledge. The teacher sent the new boy to the board. "I'd like to see what you know," she said kindly, "you may make your own problems."

Cyrus took a green crayon from a box upon the table, and going to the board began to draw leaves of various shapes and sizes whose like may or may not have grown among the flora of the earth. When he had made seventeen, he took up an eraser, and faced the teacher: "I made seventeen green leaves," he said slowly and impressively, "and a big wind came up and blew nipe of them away! Then I had eight of them left." As he talked, with a single stroke of the eraser he swept away the lost leaves.

The children gazed at him admiringly; he recited the smallest fact in a manner so earnest and convincing that one would have to listen to him for the very truth's sake. There was a flavor of magic about his knowledge that awakened something of the feeling with which men of old regarded those who saw visions and dreamed dreams.

All through the morning the new boy was alert; he added a touch of reality, a vital interest, to every phase of school

work. From his childish standpoint things were often distorted, magnified, but they were always real. Even the teacher, bound and weakened by forms that every teacher must perhaps employ, stirred uneasily; a dream voice of old whispered to her "The letter killeth, but the spirit giveth life."  
—Elizabeth Ferguson, in *School Journal*.

#### Advice to Directors of Country Schools.

A wide-awake county superintendent in Iowa issues a circular letter to school boards giving advice touching some matters of comfort and hygiene that are too often neglected. It is a matter of regret that in a circular containing so much that is good there should not have been given better advice in regard to the heating and ventilation. That jacket around the stove should *not* be propped up four inches above the floor, but should rest on the floor; a fresh air shaft from outside should open under the stove. If an exhaust shaft for impure air is also furnished the system is complete. The following is from the circular referred to:

During the past few months I have talked with people from all parts of the country about our school buildings and grounds, and everywhere people agree that "our school surroundings are not what they should be." Compared with the homes from which the children come, many of them are barren, desolate places that are a disgrace to the neighborhood. The movement that has been set on foot to improve the school premises of the county is gaining headway, and it will mean more to the children of the county than can ever be put into words. These improvements do not necessarily mean the outlay of great sums of money, but they mean that there must be some thought and care exercised, and some definite, practical work done. Will you be one of the helpers to share in this good work?

The question of heating schoolrooms is one to which very little thought has been given. Almost uniformly the great red stove stands in the center of the room, taking up the best space, making the seats

near it uncomfortable and leaving the corners of the room too cool. At a slight expense the heat question can be solved effectively. This is done by enclosing the stove in a sheet-iron jacket, placed about six inches from the stove and reaching within four inches of the floor. It must entirely surround the stove and be provided with a good, tight door. The cool air from the floor is drawn up between the jacket and the stove—heated, and rises to the ceiling, setting up a circulation which causes a more uniform distribution of heat throughout the room, protecting those sitting near the stove from the intense heat and warming up the chilled corners of the room. Such a jacket made of good Russian iron or steel can be made by a tinner to fit any stove for seven or eight dollars, and will last for years if good material is used. The stove can be placed at one side or corner of the room and the center space left for seats. There are several schoolrooms in the county now heated in this way, and the heating has been perfectly satisfactory.\* This provision should be made for every school in the county.

The school law requires that the board shall cause to be set out and properly protected, twelve or more shade trees on each schoolhouse site where such trees are not growing. There are ninety-eight country schools in the county that are not thus provided. Of this number thirty-five have less than six trees and nineteen report as having none. Schoolyards in general have a barren look. Trees may be put out, but will not live unless protected and cared for. Yards should be fenced and the trees boxed and looked after until their growth is assured.

Have you ever seen in any schoolroom a place such as described in this clipping from an Illinois school help? Is there any reason why this condition should exist?

"As a rule the water pail is in one corner of the room on a small bench, almost lost among dinner pails, wraps, etc. A pail of fresh water is brought before school begins in the morning, and that oftentimes ends the water question for the day. The highly heated, foul atmosphere of the schoolroom has its effect on the wa-

ter as well as on the children. The children drink the impure water and live in spite of it, you say; but why compel them to do this when a very small expenditure of money will secure good, cool fresh water. For \$2.50 a good galvanized iron tank, with a tight cover which keeps out the impurities of the air, and a faucet for the flow of the water can be obtained, or for less than \$1.00 a heavy earthenware jar, fitted with faucet and tight lid can be purchased. The tank should have fresh water twice a day at least, and always emptied at night, so there would be no danger of freezing in cold weather. How infinitely superior this is to the open pail among dinner pails, wraps, overshoes, etc."

School boards are urged to take definite action in regard to providing their schools with everything needed to make them comfortable. A clean, healthful building with beautiful grounds is the first step toward a better school. Soap, fresh water, paint, trees and flowers are the needed addition to our course of study.

#### Lessons in Mental Arithmetic.\*

##### VISUALISING PROBLEMS.

Problems like the following are designed to train pupils in the habit of picturing to the mind's eye the material things which the problems deal with rather than the figures used in written operations. Questions concerning the form, positions, arrangement, and even the color of the things as visualized will encourage this habit of imaging objects.

(1) How many fingers, horns and feet have two boys and two goats?

(2) How many toes, tails and wings have two pigs and two hens?

(3) A chimney is built of ordinary brick laid in the usual way; the wall is 4 inches thick, and the flue is 4 inches by 8 inches. How many bricks are needed to lay one course? Can a course be laid without breaking a brick?

(4) Some boys made a little railroad 10 rods long; how many feet of rails were required?

\*From Drill Tables and Problems for Mental Training by W. C. Hewitt and S. Y. Gillan. Copyrighted.

\*But what about the ventilation?—EDITOR.



(5) How many square inches in the lateral surface of a square right pyramid whose slant height is 4 inches and each side of whose base equals 5 inches?

(6) Give the lateral surface of the pyramids if the dimensions as noted above are  $5 \times 6$  in.,  $4 \times 9$  in.,  $7 \times 12$  in.,  $7 \times 9$  in.

(7) How many rods of fencing will it take to enclose two lots that are 4 and 5 rods square, respectively?

(8) Answer the question if the lots were 3 and 4 rods square, 5 and 9 rods square, 10 and 12 rods square.

(9) An acre of land  $10 \times 16$  rods is cut up into lots  $5 \times 4$  rods. How many lots are there?

(10) A three-inch cube is painted on all its faces, and then cut into inch cubes. How many of the inch cubes are painted on three sides, and in what part of the large cube are they found? How many on two sides only, and where are they? On one side only? Are any not painted at all?

(11) If a man is paid a dollar a cord for sawing wood into two pieces, how much ought he to be paid for sawing it into three pieces?

(12) How many cubic inches in a brick  $2 \times 4 \times 8$  inches? How many square inches of gold foil would it take to cover it?

(13) One garden contains 16 square yards and another is 16 yards square. What is the ratio of their areas? Of their perimeters?

(14) If 2-inch pickets are placed 2 inches apart, how many pickets will it take for a fence 100 feet long?

From A to B is 240 feet; between A and B the ground rises uniformly in a hill culminating midway between A and B at a height of 50 feet; through the hill is a railroad cut, the track being on a level with A and B. How many pickets 2 inches wide set 2 inches apart will make a fence from A to B along the track? How many over the hill?

(15) How many board feet in a board 12 feet long and 9 inches wide?

(16) How many square feet in a walk 3 feet wide, surrounding a garden that is  $70 \times 80$  feet?

(17) I have a card 10 inches square, and from it wish to form two other squares; what are their dimensions?

(a) If the smaller square is composed of one piece, what is the smallest number of pieces that will make up the larger square, and what are their dimensions?

(b) Transpose the words "smaller" and "larger" in the above and answer the question.

(18) A square yard is cut from a board 20 feet long and 10 inches wide. Find the length of the piece remaining.

(19) What part of a four-inch cube is a two-inch cube?

(20) A border 2 inches wide is put around a card 10 inches square. What is the ratio between the square inches in the card and the square inches in the border?

(21) There is a public road on the north boundary of the northeast quarter of the southwest quarter of section 18. How many rods of fence must the owner build to inclose the tract if he joins fences with his neighbors?

(22) There are 17 trees a rod apart along the end of a lot, and 21 trees a rod apart along the side; how many acres in the lot?

(23) How many eyes, hands and feet have three hens, one horse and two boys?

(24) How many posts will be required to fence a lot 400 feet square and to divide it by cross fences into four equal square lots, the posts to be 10 feet apart?

(25) How many board feet in an inch board that is 16 feet long and one foot wide? 20 feet long and 16 inches wide? In a board 24 feet long, 14 inches wide and 2 inches thick?

#### A FEW PUZZLES.

(1) A man finds that he must sleep half as long as he is awake. His usual bedtime is 9 p. m., but one night he is unable to get to bed until 11 o'clock. At

what time will be arise the next morning, and at what time must he retire that evening to get up at his usual time on the morning of the third day?

(2) In a stable in which are some horses and grooms, can be counted eighty-two feet and twenty-six heads. How many horses and how many grooms were there?

(3) Two men wish to divide eight gallons of cider equally between them. The cider is in a keg which holds just eight gallons. The only measures they have are a five gallon keg and a three gallon bucket. How can they make the division?

(4) A woman carrying eggs to market was met by an unruly fellow who broke them. When asked by a magistrate to prove her loss, she could only remember that in counting her eggs into the basket by twos, threes, fours, fives or sixes, there always remained one over, but by counting them by sevens none were left. How many did she have?

(5) If 300 cats kill 300 rats in 300 minutes, how many cats can kill 100 rats in 100 minutes?

(6) The product of any two consecutive numbers multiplied by their sum contains the factor six. Why?

(7) What is the number which if multiplied by 3, divided by 3, increased by 3, and diminished by 3, the sum of the four results thus obtained is 96?

(8) One dealer has ten apples, another has thirty, a third has fifty. Find a uniform rate at which they may all sell and each receive the same amount of money. Answer: Three cents for each seven, and nine cents apiece for the remainder.

Make another puzzle like the foregoing, taking other numbers and a different rate.

(9) A boy is required to buy 20 eggs for 20 cents, goose eggs, hen eggs, and duck eggs, at 3 cents,  $\frac{1}{2}$  cent and 1 cent, respectively; how many of each can he buy?

### Common Words Commonly Mispronounced.

The following list may be used in this way: Call on a student in a high school class or a teachers' institute to pronounce at sight a dozen or twenty words clearly and distinctly; then announce how many were mispronounced, but do not state which ones they were. Call on another to take the next twenty, etc. When the list has thus been run over a few times, a lively interest will be aroused. Now is the time to drop the subject and let it stand as an assignment for the following day. You may be sure that dictionaries will be consulted that night, and great surprises will be in store for many.

luxury	research	brooch
isolate	equipage	resource
tirade	romance	squalor
oasis	excursion	docile
inquiry	cerebrum	nasal
complex	Caribbean	program
algebra	peremptory	kitchen
levee	exquisite	calliope
almond	ignoramus	squalid
benzine	illustrate	faucet
lapel	spinach	mandamus
discourse	lamentable	advertise
area	exponent	negligee
Genoa	frontier	pyramidal
arctic	coquetry	gondola
Uranus	obligatory	magazine
cadaver	tympanum	vehement
naive	decorous	opportune
impious	clandestine	lyceum
tilde	tonsillitis	equation
evil	enervate	mustache
Latin	fulsome	Yosemite
basin	abdomen	diploma
canine	revocable	acclimated
ally	accented	Sevastopol
construe	decade	antepenult
facet	truths	respiratory
amateur	finance	indissoluble
tenacious	extant	defalcate
gooseberry	Asia	disputable

### Stevens Point Idea.

At the Stevens Point (Wis.) normal school I saw a device for teaching the constellations that was both unique and effective. A sun umbrella was open and on the inside all the leading constellations were made with small gilt stars. Then the umbrella was suspended from the ceiling in such a way as to show where they are in the heavens. For a device so inexpensive it was a great success.—A. E. Winship.

[Why not go out at night and look at the real thing.—EDITOR.]

Percentage of High School Students Pursuing Different Studies in 1891 and in 1901.

	Latin.		Greek.		French.		German.		Algebra.		Geometry.		Physics.		Chemistry.		History.	
	1891	1901	1891	1901	1891	1901	1891	1901	1891	1901	1891	1901	1891	1901	1891	1901	1891	1901
Ohio.....	46.8	51.2	1.6	2.7	1.3	2.7	11.4	13.2	58.4	60.4	27.2	25.9	25.	17.	10.	6.2	24.3	28.3
Indiana.....	44.5	65.3	1.2	1.1	1.7	1.1	10.	14.9	54.4	63.	19.6	29.5	25.1	18.1	9.8	8.3	28.4	42.4
Illinois.....	68.9	50.7	1.5	1.2	3.5	5.4	13.4	17.2	44.1	52.3	23.9	27.5	23.4	16.4	10.2	7.5	26.	33.4
Michigan.....	23.	35.7	1.2	1.5	1.7	4.3	10.	17.1	41.2	53.7	15.1	21.2	18.2	15.9	8.2	9.4	21.8	36.4
Wisconsin.....	25.	24.5	.8	.9	2.	2.	15.	23.7	45.	45.9	20.	33.6	20.7	17.7	8.4	11.	18.2	30.7
Minnesota.....	49.4	63.4	2.2	5.6	6.5	16.4	19.5	58.5	49.9	23.7	25.9	21.	18.6	21.6	6.6	4.	14.8	40.5
Iowa.....	25.3	46.5	.3	3.3	5.	7.5	7.5	11.2	55.	16.	25.9	21.	18.6	20.7	6.6	4.	27.6	32.3
Missouri.....	41.3	65.5	1.4	3.2	3.2	3.2	8.5	13.8	61.5	53.3	21.1	27.	24.8	16.9	12.8	6.7	29.5	39.9
North Dakota.....	85.	68.2	0.	0.	0.	0.	3.	11.7	63.	53.3	21.	22.5	16.	15.9	13.	2.2	24.	30.2
South Dakota.....	43.2	40.2	.4	.3	.3	.3	2.3	7.7	42.	57.4	29.	25.	36.	16.6	7.5	4.9	38.	34.3
Nebraska.....	30.4	59.6	.5	.7	.7	.7	9.7	11.9	46.7	66.4	18.7	36.8	16.5	20.6	10.6	8.8	19.4	35.1
Kansas.....	36.3	61.8	.6	.4	.3	.4	9.	11.	52.4	64.3	19.5	27.8	26.2	21.5	5.9	7.3	37.9	28.1
Groups of States.																		
North Atlantic.....	37.2	47.	5.4	18.5	11.5	18.5	24.	19.9	43.7	50.1	26.3	27.7	22.8	17.7	17.4	8.2	27.4	49.9
South Atlantic.....	65.8	64.3	2.1	8.7	8.6	9.8	11.3	9.8	66.8	67.8	29.9	28.3	34.1	23.2	12.6	8.	36.3	50.9
South Central.....	49.2	55.7	2.1	1.9	3.6	15.8	5.1	70.3	72.7	32.	30.5	37.2	24.7	24.7	14.8	6.2	40.6	36.4
North Central.....	41.8	50.3	1.2	1.7	2.6	11.	15.1	55.5	57.3	21.2	27.1	22.7	17.4	9	9	6.9	24.9	40.
Western.....	33.7	51.3	2.2	2.7	5.9	8.3	12.8	15.5	59.	60.9	35.3	31.3	27.2	17.5	13.4	10.7	39.3	66.8
United States.....	41.2	50.5	3.	5.7	8.3	16.	15.5	52.2	57.	57.	24.6	27.8	24.	18.4	10.2	7.6	38.2	39.

**A Few Nuts for High School Men to Crack.**

Here is a table of statistics concerning high school studies. It contains several interesting facts that will challenge the attention of high school teachers, and will probably surprise most of them. The table is compiled from the reports of the United States Commissioner of Education for the years 1891 and 1901 and shows the relative popularity of the several high school branches as indicated by the percentage of students pursuing each. The changes during the decade show such a uniform tendency in some directions as to preclude the possibility of mere chance.

Ask the first half dozen intelligent people you meet whether the study of Latin has increased or decreased relatively to the sciences in the high school during the past decade. Most of them will venture an apriori judgment that the sciences have increased in popularity and Latin fallen off; and this conclusion will be based on the common impression that in this scientific age there is a tendency to drift away from classical studies. Now you have a surprise in store for your friend who jumps to this conclusion. Latin increased during the decade from 41.2 per cent. to 50.5 per cent., but physics fell from 24 per cent. to 18.4 per cent., and chemistry from 10.2 per cent. to 7.6 per

cent. for the whole United States, while in certain states and groups of states the difference is much more marked. (See table.)

Here are a few questions we should be pleased to have answered by high school men, and while they would not all agree as to causes, yet the reasons assigned by thoughtful men in explanation of the facts would be of value and interest to many of our readers: Why has there been so marked a falling off in the study of Greek? Why so large a gain in Latin and in French? How do you account for the fact that Wisconsin is by far the lowest in Latin, but its neighboring state, Minnesota, having substantially the same kind of population, is one of the highest? Note also the striking disparity between these two states in the matter of French. Will some Iowa man please explain why the study of algebra in that state has declined so much, and while he is getting ready to recite will some Nebraskan tell what gave algebra such a boom in the trans-Missouri region? The general growth in history study is remarkable; in Minnesota it is so striking as to call for explanation; but what is the matter with history in South Dakota and Kansas? In the whole country German is slightly waning; the shrinkage was great in the Atlantic States and quite remarkable in the South Central group; but in the North Central and the Western groups the increase was enough so that the total percentage fell only a half of one per cent. In Wisconsin and North Dakota chemistry has almost reached the vanishing point. In Iowa the interest in geometry seems almost to have doubled in ten years.

The branches given in the table are the only ones reported by the Commissioner of Education in 1891. A few others, as psychology, rhetoric and trigonometry are reported for 1901.

It is evident that by adding the numbers in the table for any one year in horizontal

lines we shall get a set of numbers which will show the relative amount of work put upon this group of studies in the different states. These numbers are as follows:

Ohio .....	2035	Iowa .....	1943
Indiana .....	2424	Missouri .....	2299
Illinois .....	2116	North Dakota....	2044
Michigan .....	1952	South Dakota....	1868
Wisconsin .....	1689	Nebraska .....	2404
Minnesota .....	2428	Kansas .....	2228

It would seem, therefore, that the amount of attention given to the studies in this group is greatest in Minnesota, Indiana and Nebraska, and the least in Wisconsin, South Dakota, Iowa and Michigan.

#### Industrial Training in Rural Schools.

STATE SUPT. ALFRED BAYLISS OF ILLINOIS.

(From a paper read before the Department of Superintendence, Cincinnati.)

I visited a country school which I should like to describe as a basis for this discussion.

The house is comparatively new, and enjoys the unusual distinction—in Illinois—of being heated by a furnace. There is a narrow closet, extending the whole width of the building, from which leads a stairway to the basement.

The excavation for the basement is under about one-third of the floor space, and was intended to be just large enough for the furnace and coal supply, but, by some happy inadvertence, had been made a little larger than was necessary for those conveniences, thus making room in the corner nearest the window for a little workshop. There I found a well-made, though by no means elegant, carpenter's work-bench, with an up-to-date vise, and a fair kit of tools. There were a jack-plane, two chisels, a tri-square, joiners' gauge, brace and bits, a drawing knife, saw, two "jig-saws," two hammers, two bench knives, a small lathe, a glue pot, some pieces of unfinished work and a little stock of lumber. Such an outfit I have never before seen in connection with a one-room country school.

As I stood in the closet, up-stairs, I could hear a boy say: "Lesson two Xs, V, one I, twenty-six. A pen-in-su-la is a body

of land," etc. As I entered the school-room, the first thing I saw was the omnipresent time table of recitations—fifteen in the morning, and seventeen in the afternoon. There was one twenty-minute period for arithmetic, and three other periods fifteen minutes long. All the other "hours" were either five or ten minutes. The school, therefore, is "normal" in some ways. Those four long periods were for the use of the six eighth grade pupils. The thirty-three pupils enrolled vary in age from six to eighteen years. A baker's dozen of them are twelve years' old and over.

The ceiling is papered, the matting near the teacher's table is rather pretty, and an artificial palm stands on a little table about where the stove might have been. The casual visitor might go away uncertain about the walls, they are so covered with the handiwork of the children—colored maps, drawings, amateur photographs and the like. These things detract so much from the effect of the three or four fine pictures that the children are planning to remove them to the halls, and give Rosa Bonheur and Millet a better chance..

This school had attracted attention by the variety and excellence of its exhibits at the State Fair. I quote a paragraph from a newspaper published in a neighboring city:

The Cottage Hill School, in Sangamon County, Mr. E. C. Pruitt, teacher, is probably the most remarkable country school in Illinois in the matter of making agricultural collections. It takes first premium in products of school garden, collections of seeds gathered by the pupils, flowers from school garden, geological collection, collection of woods, and of insects, maps of Illinois and grand division maps, and second in amateur photography. It has a library of 150 or 200 books. Sixty-five kinds of wood are shown; the large table of potted plants taken from the school garden is a credit to any gardener; the products of the school garden include potatoes, tomatoes, corn, beans, onions, turnips, several grasses and other products. The seed collection is elaborate, and the kinds are neatly displayed in glass bottles and elongated globes. Parents who send children to this school report that the boys and girls are greatly interested in these collections, and

the garden-making, and that they talk a great deal about it at home.

One of the boys told me they had earned \$290 in this way. I said, "What have you done with all that money?" The reply was an expressive gesture which said as plain as words, "look around you." I told the school their library would be richer by two good books if they would tell me in writing just how that money was used. There was a ready assent, and the next Monday morning after my visit I received thirteen letters about it. Considered as a piece of literary art, the one I copy is neither the best nor the worst, but from the informational side is as good as any in the lot.

Cottage Hill School, Jan. 15, 1903.

Dear Sir:

You said you would like to know what we done with the \$290 we took away from the State Fair of Illinois for premiums I will mention some of the things I can think of there is our library consisting of 185 books, Two book cases, a 12-inch globe Dictionary stand, Music chart, case of seeds, and globes, for seed, Lumber for stage curtain and carpet, Six lamps with reflectors, Clock, Two fine pictures One of Christ, the other of Britany sheep, framed eight diplomas, and several of our premium maps and many other pictures to numerous to mention, Artificial palm, three tables and eight Chairs, Six drawing boards, gave \$17.00 to pupils, flowers and flower seed. Papered the school room, 100 seed bottles, lathe work bench and set of tools, stand cover Song books, and many articals we neaded to make all of these things Well I guess I will close now as I can think of nothing else

Yours truly

\_\_\_\_\_,"

I do not file this statement as an exhibit of "The Illinois Plan." The case is not a type. It may not be an illustration of a rational solution of the problem of Industrial Education in Rural Schools. I shall not be surprised to hear it characterized as a case of misdirected energy, exhibiting nothing of educational value, or even as a lawless obstruction to the real business of the school. It is, nevertheless, an existing case, and, moreover, one of which there will soon be many counterparts, if the energy of country teachers and supervisors happens to be turned, as seems not unlikely, in this direction. The country



school, as never before, is taking its cue from the town school. The country teachers have a *feeling*, if they do not know, that the town teachers have the advantage of them, and are doing some things better than they can do them. They are ready to make any sort of experiment—do anything their supervisors suggest. They are impetuously eager to “prove all things.” They will hold fast that which is good, too, if by reason of light and guidance they chance to find it.

In this instance, there is, apparently, a lack of co-ordination and logical continuity, or something else that is without meaning to the country teacher, but sounds well. But there is in it, at least one element of conscious educational *purpose*. “When I came into this district six years ago,” the teacher told me, “the schoolhouse had nothing in it and was falling to pieces. After the new house was built the school became larger, and I just *couldn't* keep those little fellows studying books all day, and so *had* to do something to keep them busy. Then it just naturally followed that the older children ‘got busy’ because they wanted to.” He admits that merely to “take that money away from the State Fair of Illinois” would not by itself have been a motive of the first class, had it not been combined with a desire to use it for the benefit of the school. I am not inclined to disparage the prominence he gives the economic motive. Work for the good of the school is a foundation for a larger public spirit. This young man's method touches life—at almost too many points, perhaps—but it does “touch life,” and for those children, makes life more abundant. The articles made at that bench, and on their little home-made looms—I counted as many as twenty of the latter—develop ingenuity and train the constructive imagination, for there were many variations and indications of originality. One can see within the first ten minutes, also, a remarkably fine atti-

tude toward the regular work. They seemed to mean business, and wanted to do it as well as they could. That schedule of thirty-two daily exercises is possibly avoidable to some extent, but it is difficult to prepare a plan of conventional school work for thirty-three pupils, with eight grades represented, that will keep the children who are not reciting lessons, occupied all the time in preparing lessons. So, at certain times in the day some of this hand work may be done in-school hours, and the inevitable mischief, or, what is infinitely worse, idleness, is reduced to its lowest terms. But by far the most noticeable phase of this special case is its social significance. The community spirit—each for all, and all for each—is developed to a remarkable degree. They “took that \$290 away from the State Fair of Illinois” for the benefit of their school as an organization, and I submit that the itemized account of purchases made will bear some scrutiny. They solved for themselves the vexed problem of school supplies. The board of directors is an unusually good one. Witness that basement with a furnace in it, and the long closet at the end of the schoolroom. But in all human probability, that board would *not* have bought those three extra tables and *eight* chairs! The schoolroom might have been cleaned; it probably would not have been decorated. Several of the many “articals we needed,” besides those pictures would not have been provided. The school itself might not have discovered the need. It was a great step in advance to provide that furnace, but the education of those directors up to the point of regretting that the basement is not under the whole house, and the unsolicited offer from them to complete the excavation next summer, is in the nature of a triumph. They are likely to be permitted to do it, thus making room for another bench and two or three lunch tables. “You must have *warm* lunches down here next winter,” I said to some of the boys. “Gee, won't that be

nice," was the prompt retort. I am inclined to think they will have them, for this activity interests the people of the district. I asked a little fellow who took care of the garden in the summer vacation. "The man across the street watches it and keeps the town boys out of it," was part of the answer. The children talk about school at home, not more perhaps, but in a different way. The people, in consequence, think about it in a different way. The teacher, as another natural sequence, has the firmest kind of a grip on his job, and an option on three or four more nearly as good.

Results count. This man's pedagogical method may be vulnerable, but beyond a peradventure he has achieved the prime result to be sought in any school district—a genuine and general public interest in the welfare of the school. To the teacher who can do this, all things are possible. The bane of the detached school, in the small, independent district, is the withering apathy, the utter indifference to anything but petty grievances, that, in the last analysis, can usually be traced to the intolerable dullness of the conventional school routine. Children are confined to a single mode of expression, and that upon matters which, as far as they can see, have no sort of relation to anything whatever of immediate interest to them—and they naturally go to sleep. Why shouldn't they? Whatever wakes them up is justifiable. If the waking is followed by a new attitude of mind, extending beyond the school to the community, uniting directors, people, children and the teacher, the result is a distinct gain, apparent pedagogical crudeness to the contrary, notwithstanding. Saul, the son of Kish, is not the only man who ever found a greater thing than he sought.

Moreover, wherever the small district organization prevails, this sort of thing, undoubtedly, comes very near to the limit of reasonable expectation. The difficult factor in our equation is the supply of

teachers. Teachers who can do much better than this are not to be had for the country schools, in anything approaching sufficient numbers. They can never be had until the country school shall be organized up to the point of so increasing the taxing ability of the school units of organization that they can afford to pay living wages. The right kind of teachers would very soon make such cases as the one I have described very common, and so modify them that they would be less obtrusively "long" on the industrial, and "short" on the training side. In the meantime, we must do as well as we can.

As a mode of industrial training, the school garden should stay. This has been questioned. It is rather plausibly urged that a garden, as part of the equipment of a country school, is an anomalous superfluity. The children, it is said, work in the garden at home, and most of them can give their city-bred teachers pointers already. All of which is more or less in accordance with the facts. But, in most home gardens, the child's share of the work is so allotted as to be mere drudgery. He does it because he has to. The garden at home has but a single interest. The garden at school may have several. It may be made tributary to the natural instinct for ownership. The boy will want a garden of his own in which he may parallel some of the school work, extending it in some ways and intensifying it in others. His study of soil manipulation will lead to experiments of his own. If he learns nothing more than to figure the time, labor and material cost of some product he is allowed to market on his own account, he will know the essential difference between a good farmer and a poor one. But the school garden should be better planned than was this one. It was only "three rails square," and they raised "everything" in it. Superintendent Kern, of Winnebago county, has already worked out a better plan. He organized a "Farmer

Boys Experiment Club," with thirty-three charter members, but which has over 118 names on the roll now. As did also the superintendents of two other counties (Mr. Wire, of McHenry, and Miss Barbre, of Christian), he took a large party—six car loads—of boys and girls, and their parents, to the Agricultural College, two hundred and fourteen miles away, just to give them a chance to see a school garden on a large scale. These boys raised sugar beets in accordance with directions given them by the teachers at the university, and returned samples of the crop for analysis. Some of them raised "prize" corn; others made investigations with reference to smut in oats, did something with alfalfa and some other legumes; and still others entered into a lively competition to see who could devise and draw the best plan for landscaping the school grounds. They will go down to the university again next June, and to the St. Louis Exposition in 1904. Just now, this superintendent is interesting his school directors in a plan, furnished him by a university professor, for a school garden twelve by thirty-six feet, laid off for three rows of corn, eight rows of vegetables, and one row each of pansies, petunias, China asters, Drummond phlox nasturtiums, sweet peas, and sunflowers. This is better than a larger variety, and much better than "everything."

The school garden should, of course, make much of flowers, not forgetting to make room for some of the beautiful wild ones.

I would keep that work bench, and may its tribe increase. Man is instinctively a tool-using animal. The bench will justify itself as a factor in industrial training if it does no more than increase the manual dexterity of the boys. On every farm there are cultivators, plows, mowers and reapers to be mended, and buildings to be repaired. It is an advantage to any man, in any business, merely to be "handy" with tools. I know a country carpenter who takes his

vacation in the woods, or on the water, for all the world like a "gentleman of leisure," and a rich man who spends his summers up on the north shore of Lake Superior, and finds half his pleasure in his shop, making whatever his fancy dictates for the cottage, the boat-house, or the barn. It is worth while to know how to drive a nail or saw a board straight; it is no small thing to know how to make a good joint. Incidentally, this work at the bench may help an occasional genius to discover himself. "Stick to the farm," may not be the best advice to give a boy whose known bent is for a town occupation. But utility is as good a motive as any, at present, for the bench exercises.

For strictly schoolroom occupations, weaving and sewing should be continued, and clay modeling be added. The little children neither can, nor should be permitted to spend the entire school day pretending to study books. Such a pretense is as immoral as it is impossible. They would much better sleep part of the time. There should be a little kitchen in every country school. Some of the boys may want to learn to cook, just as some of the girls may want to use the work bench. Let them.

This is diversity enough. The country teacher who can substitute something "equally as good," for these lines of work, or any of them, is able to walk alone.

An old county superintendent who broke into the Illinois Legislature last fall, and in whose county there are more than a dozen country school houses with furnaces and bay windows, said to me, the other day, "O, if my people would only allow such teaching as that, but they wouldn't!" "Industrial training for country school children is nothing but another fad. Teach them to read and write!" said a scholarly man of affairs an hour later. And so it goes. There will, no doubt, be beautiful fighting along the whole line before the school garden and the school carpenter's

bench become accepted commonplaces. For which reason, as Sheridan said to the colonel, we may "go in anywhere."

#### A Visit to a "Model" School.

When a primary teacher from the rank and file is recommended to visit the second grade of a certain well-known city training school, she naturally expects to find a model teacher in a model room, using model methods. Occasionally she receives a shock.

On a beautiful autumn morning, when "October's bright blue weather" must have inspired all workers, the world over, to "do their best, their very best," Miss X had a visitor. Now Miss X is the one who should have been the model teacher hinted at above. The door of her room was open, and when the visitor knocked\* there was no response, because, as it was plain to see, Miss X was busy.

She was sitting at her desk, expounding to three lounging little boys the eleventh commandment, "Thou shalt not whisper in school." The third knock gained admission for the unintentional eavesdropper, who was surprised to be greeted with, "Dear me, I guess you must have heard me lecturing!" The Visitor politely murmured that she, too, had often lectured, but mentally remarked that she had not expected to find the model teacher at it.

Miss X was rather fair to look upon; she suggested comfort and ease—too much ease. For five minutes the Visitor was entertained with an explanation of the misconduct of the three lounging little boys (who would persist in exchanging agates in school, it appeared), and then the culprits were arranged around the room to "think it over." One was sent to a "special" desk in a corner, and immediately demonstrated the delight which all boys find in manual training, by whittling a small hole under the inkwell into a large one. The second was told to stand by the window, and did so with alacrity. For

were not the cars passing constantly, with an occasional automobile to vary the procession? The third was consigned to the dressing-room, and banishment must have been an old story, for he quite openly went through the muscular movement known as "winking" as the door closed behind him.

"Now, children, we will read. S'tup straight, feet together, hands folded. Adalena, pass the books. We will read this morning about the two goats who couldn't cross the bridge. Mamie begin." Having "pressed the button," as it were, Miss X now settled herself in her big chair to hear the children "do the rest."

"What are those B class pupils going to do?" the Visitor wondered. The model teacher herself soon noticed that she had said nothing about seat work, so she stopped the reading lesson for seven minutes, and put three lines of number work on the board for them to "do." First, the book which contained these "stories" had to be found, and then a certain page which the class was "on."

At last the B class children were bidden to copy their "number stories carefully." But they had no paper. Then it was that a big carving knife, which lay on the piano, came into use, and it soon sliced some rare pieces of examination paper for those patient little people, whose curly heads now bobbed contentedly up and down in the enjoyment of really doing something.

Those goats had stood a good while on the bridge, but as "neither could go by the other," this did not much matter. By actual count, one short sentence in that lesson was read by fifteen children, and twenty-three minutes were passed in creeping over two pages. Time was spent in discussing "long *a*, short *a*, hard and soft *g*," until the Visitor's head swam. During those twenty-three minutes, the Visitor's wrath kindled; perhaps she was foolish to care, but she did. The second little boy to read that oft-repeated sen-

\*Why knock at a schoolroom door?—EDITOR.

tence, pronounced some simple word incorrectly, and even with help could not remember it. What do you think that model teacher did to help him? She sat there in her comfortable chair and looked at him reproachfully, and then said, "Since your eyes are such careless servants, Jack, you may close them until I tell you to open them."

The Visitor was amazed, but not so Jack. He folded his hands and shut those pretty blue eyes, and sat there for fifteen minutes, seeing nothing, and thinking—of what? This may seem incredible or overdrawn, but it is true. At the end of the lesson the child's face showed that he was thoroughly tired out. Anyone who tries the experiment of closing his eyes and folding his hands for a quarter of an hour must admire little Jack's courage, even if he does not approve of blind obedience. Nine children out of ten would have rebelled at such an unjust punishment, but not so that particular boy.

During the music lesson which followed the Visitor made mental notes of the room in which all the afternoon normal school girls would "observe," and meanwhile unconsciously absorb an atmosphere which they would carry into their own school-rooms by and by.

The square piano next to the platform was evidently the model teacher's hat rack, for in spite of the plentiful sprinkling of dust on the faded red cloth, her hat and coat had been pitched there. In another corner there was a large cage for rabbits. The rabbits were not in, but that they had been recently, was evident. A window with a dozen geraniums was a pleasant sight for tired eyes, but even there among the pretty plants one broken flower pot was lying, its contents spilled on the floor below. Glancing at the blackboard, the Visitor was immediately struck with the date, boldly inscribed thereon, carrying her back to Monday, when Wednesday had arrived. Above this record of "a day gone by," a

row of neatly written figures in yellow crayon did their best to attract the children's attention, silently protesting against the *twos* and *fives* which Miss X usually made. But all those blackboards were streaked, dusty, careless looking, like everything else in the room.

There is something wrong somewhere. Who is to right it?—G. M., in Primary Education.

#### Common School Equipment.

Maps and Globe.—When a district can afford it, it will be found very convenient to have two sets of maps, one set of outline maps and one set of maps with the names on. If only one set is used, it should be a set of outline maps. Why? This is the reason. Suppose the teacher calls Willie to the board to see what he knows about the countries of Europe. She asks him to point out the various countries and name them. That is an easy matter seeing that the names are printed in large type on the map. Will such an exercise show the teacher what Willie knows? No, but such an exercise would if there were no names on the map. The maps should be enclosed in a case so as to protect them from dust. A good set of eight outline maps can be bought from any reliable dealer in school supplies for about \$16.75.

A good globe is quite as essential as a set of maps. It should not be a complicated affair; a simple ten or twelve inch globe well mounted is the best. It should be provided with a box for safe-keeping when not in use. The price of such a globe is about \$3.50 to \$5.

Reading Chart.—A reading chart is more useful in a rural school than in a graded school because the teacher has very little time for putting reading lessons on the blackboard. As good reading charts can be had for a very reasonable price, it does not pay to save that money and require the teacher to spend her time in placing lessons on the board.



**Writing Material.**—The main reason for furnishing writing and drawing paper is that it makes it possible for the teacher to have uniformity in the written work of the pupils. This is very desirable where such work is to be kept for the inspection of parents and school officers. The same result is obtained whether the paper is furnished free or sold at cost to the pupils. As all writing material can be bought very much cheaper when bought in bulk, this plan will be a means of saving some money for the district in addition to the benefits mentioned above.—Our Schools.

#### Are We at the Center?

Professor Alfred Russell Wallace, the eminent scientist, has an article in the *Fortnightly Review*, which persons who accept the theories it expounds will find not a little flattering to human self-conceit. Elsewhere we have commented more fully on his discovery. Dr. Wallace reminds us that the early astronomers considered the earth the center of the universe, but that, gradually, as telescopes improved and astronomical science was perfected, the conviction grew that there were an infinite number of worlds, and that ours was probably one of comparatively small consequence in the multitude. Dr. Wallace thinks that there are not so many worlds (or stars) as has appeared. He finds that the great telescopes which reach the remoter depths of space find the stars much less numerous in those distant regions. From this he argues that the number of the stars is definitely limited. That being so, they have a center, and he suggests that the cluster of stars to which earth belongs, being near the center of the plane of the Milky Way, is really at the center of the universe, as the early astronomers supposed. The probability that earth occupies this remarkable position he finds helpful to the belief that the Creator had extraordinary intentions with regard to it, and planned, in making it the home

of man, that on earth the ultimate purpose of creation should be worked out. So Dr. Wallace doubts that any other planets than ours are inhabited, and that anywhere else than near the center of the universe could an orderly development of living souls have been attained. It is a consoling theory. Only astronomers are qualified to weigh or discuss the assumption on which it is based, but we can all hope that it is true and that man is, after all, the one pebble of consummate consequence on the vast starry beach. Dr. Parkhurst doesn't think Dr. Wallace is right. To him it seems wasteful to have made so many worlds and only peopled one. What would you think, he says, if you saw a city with accommodations for a million inhabitants, and only one house with people in it? But, after all, that is the point of view of a mind busied with municipal economies. Dr. Parkhurst and the Almighty may have different conceptions of waste.—*Harper's Weekly*.

#### Science and Mathematics Teachers' Association.

In November last there was organized in Chicago a Physics Teachers' Association, which has just been enlarged into The Central Association of Science and Mathematics, with four sections—physics, chemistry, biology and earth science, and mathematics. The attention of science and mathematics teachers in the secondary schools should be drawn to this organization as having the promise in it of much good. The writer attended the sessions of the mathematical section and was interested especially in the discussion of the following topics:

Dean Alderson, of the Armour Institute, presented the "Perry Movement," first giving some reminiscences of his meeting with Professor Perry in London. Mr. Perry said to him: "Why don't you Americans come over here oftener?" "Can you teach mathematics?" "How do you

do it?" Professor Alderson then proceeded to explain Perry's ideas, drawing a series of vertical lines and writing between them the headings arithmetic, algebra, geometry, trigonometry, analytics, calculus, differential equations. As we now teach mathematics each of these is a separate entity, a watertight compartment, so to speak, complete in itself and unconnected with the others. It is Mr. Perry's idea that the student should not do all of each before he goes on to the next, but should do only what is essential to progress farther on. In this way he would have the student know the use of the trigonometrical functions early, and even be using the elements of the calculus in the solution of practical problems at a time when by our plan he is still learning the elements of mathematics. Dean Alderson said this course had been pursued successfully in the evening classes at Armour for learners who could not afford the time necessary to learn elementary mathematics in detail. He described such a course as a horizontal slice, cutting through the vertical lines referred to above. The discussion showed that Professor Perry's ideas applied to our mathematical curriculum would lead us to throw out many of the propositions of demonstrative geometry, would defer the study of the difficult features to a supplementary course, would introduce graphic methods freely into the teaching of algebra, and abridged methods of calculating into arithmetic.

A paper was presented by Professor Comstock, of Bradley Institute, of Peoria, showing how Perry's ideas had been utilized in the work of their school. This was followed by a brief account by Miss Long, of Lincoln, Nebraska, of an attempt to correlate or amalgamate the work in physics and mathematics in the Lincoln schools. Miss Long gave some account of her efforts at the last meeting of the N. E. A., which was followed later by an article in the October Educational Review.

After this discussion Prof. Young of the University of Chicago, summarized the new so-called "laboratory" method of teaching mathematics. He said the laboratory method seeks to arouse and hold the interest of the student; to correlate the different branches of mathematics with themselves and with physics, or even to amalgamate the physics with the others; to accept proofs based on measurement and on intuition; to rule out the "recitation" (i. e., the formal reciting of what is already learned); to have pupils carry on their work as individuals as well as collectively; to teach everything in two ways; to displace fads, meaning by a fad "a method which exalts a means into an end."

A committee made a report on a proposed three years' course which correlates mathematics and physics adapted for use in high schools. It was regarded as one of progress and will doubtless come up for discussion at the meeting set for next December. Credit is due Professor Moore, of the University of Chicago, in the preparation of this report. His presidential address before the American Mathematical Society, published in Science for March 13, 1903, gives numerous references to the literature of the topics discussed at the meeting and of the teaching of mathematics generally.

Among those present were Professor Skinner, of the University of Wisconsin, and Professors Hewitt, Blair and Sage, of the Oshkosh, Wisconsin, Normal, the latter being on the physics section program.

J. V. COLLINS.

State Normal School, Stevens Point, Wis.

Two extremes are to be avoided in pronouncing words with long *u*. *Tuesday* is pronounced neither *toosday* nor *choosday*. *Institute* is pronounced neither *institoot* nor *instichute*. There is a *y*-sound at the beginning of long *u*, but after *s*, *j*, *l*, *t*, *d* and *m* the *u*-sound is not prominent.



## Readings and Recitations.



### A Little Gentleman.

I know a well-bred little boy who never says  
 "I can't";  
 He never says "Don't want to," or "You've  
 got to," or "You sha'n't";  
 He never says "I'll tell mamma!" or calls his  
 playmates "mean."  
 A lad more careful of his speech I'm sure was  
 never seen!

He's never ungrammatical—he never mentions  
 "ain't";

A single word of slang from him would make  
 his mother faint!

And now I'll tell you why it is (lest this  
 should seem absurd);

He's now exactly six months old, and cannot  
 speak a word!

—May St. Nicholas.

### Nests.

I know where meadow grasses rank and high  
 A cradle cover,  
 Because two bobolinks with telltale cry  
 Above them hover.

Small mullein leaves beside my garden wall  
 Grow unmolested;  
 And under their pale velvet parasol  
 Sparrows have nested.

An oriole toiled on from day to day—  
 The cunning weaver—  
 Tying her hammock to that leafy spray  
 Above the river.

No wingless thief can climb that elm's frail  
 stair;  
 Nor guest unbidden  
 Can reach the snug, aerial chamber where  
 Her eggs are hidden.

A marsh wren's cunning hermitage I see,  
 As my boat passes,  
 Moored to the green stems of a fleur-de-lis  
 With strong sea grasses.

And stay! I know another pretty nest  
 Of braided willow,  
 With dainty lace and knots of ribbon drest,  
 And feather pillow.

And just one bird, with moist and downy head,  
 Herein reposes;  
 He has no wings—his shoulders grow instead  
 Dimples and roses!

You have a nest and little wingless bird  
 At your house, maybe.  
 Of course, you know without another word  
 I mean—a baby!

—May R. Smith, in Kindergarten Magazine.

### Gettysburg.

You wore the blue and I the gray  
 On this historic field;  
 And all throughout the dreadful fray  
 We felt our muscles steeled  
 For deeds which men may never know,  
 Nor page of history ever show.

My father, 'sir, with soul to dare,  
 Throughout the day and night,  
 Stood on old Little Round Top there,  
 And watched the changeful fight,  
 And, with a hoarse, inspiring cry,  
 Held up the stars and bars on high.

At last the flag went down, and then—  
 Ah, you can guess the rest—  
 I never saw his face again.  
 My father's loyal breast  
 Is strewn with these sweet flow'rs, I wot,  
 That seem to love this sacred spot.

The smoke of battle's cleared away,  
 And all its hatreds, too;  
 And as I clasp your hand to-day,  
 O man who wore the blue,  
 On yonder hill I seem to see  
 My father smiling down to me.  
 —Eugene Field

### A Song of the Yankee.

If you chance to sail uncharted seas,  
 An unknown shore to gain,—  
 It's ten to one, when you reach the land  
 A naked native is on the sand  
 With an Elgin timepiece in his hand,  
 Or a sardine-tin from Maine;  
 And under a spreading cocoa-tree  
 There stands a trader's tent,  
 Where a lonely stranger is selling clocks,  
 And Springfield guns and Stamford locks,  
 Jack-knives and liniment.

*He hails from Maine or from Lake Champlain,  
 Or maybe from Salem, Mass.  
 His face is lean, and his wit is keen,  
 And his eye lets nothing pass.  
 In an unmade land or a desert sand  
 Tis his especial pride  
 To do odd jobs for Providence,  
 And help himself on the side.*

The Yankee inherits a deal of craft  
 From his stern-faced Pilgrim sires,  
 Who learned restraint, though they suffered  
 much,  
 And dwelt in peace with the crabbed Dutch,  
 And taught the wilderness, at their touch,  
 To yield what a man requires.  
 And the mission spirit will drive some Yanks

Wherever a man can roam,—  
While others, with delicate skill, design  
Wooden nutmegs, and hams of pine,  
To sell to the folks at home.

*He's from 'Gansett Bay, or Portsmouth way,  
Or maybe from Hartford, Conn.  
No thief that's made, in any shade,  
Can steal what his eye is on.  
Where the world is raw, each lantern jaw  
Is chewing it into shape,—  
Then give God thanks that his bony Yanks  
Are scattered from Cape to Cape.*  
—Burgess Johnson in Harper's Monthly.

### Genius.

Genius is not born but made.  
'Tis ambition makes the man—  
Drudgery is Genius' aide  
Marching in the van.

'Tis an error to believe  
That the great were always great,  
That the glory they receive  
Was decreed by Fate.

Fate is but a phantom, dim,  
Neither kind nor yet unkind,  
And its smiles and visage grim,  
Products of the mind.

Those who beckon from the height  
Trod the path o'er which we tread;  
Trudging onward day and night  
Ever straight ahead.

Neither fate nor birth can give,  
Neither birth nor fate withhold  
That for which men toil and live  
Be it fame or gold.

Have some weaker ones grown great—  
Are the lowly known to fame?  
It is drudgery not fate  
That has won the game.

Genius is a slave grown grey;  
Just a common, earth-born man  
Who has risen, day by day,  
Toiling in the van.

—Floyd D. Raze.

### The Black Man's Burden.

Take up the black man's burden! child of alien  
blood,  
Drawer of Albu's water and hewer of Albu's  
wood,  
From the shores of the blue Zambesi to the  
foam of the further end  
They need the sweat of the black man's brow  
for the white man's dividend.

By the dread of the Yellow Peril, by the slang  
of the Seventh Sea,  
By the godly cant and the royal rant of the  
race that set you free,  
Wherever the red gold glitters, wherever the  
diamond shines,  
Go forth, upon compulsion, and labor in the  
mines.

The winds of the West have heard it, the stars  
of the South replied,  
When the Lords of the Outer Marches went  
forth on a fruitless ride.  
That the son of the swarthy Kaffir must wake  
from an idle sleep  
When the one grey Mother calls for toil, and  
the Lord has made it cheap.

Foster-sons of the Empire, wards of the baked  
Karoo,  
This is the law the Mother makes and her  
sword shall prove it true;  
"Wherever the red gold glitters, wherever the  
diamond shines,  
Take up the black man's burden and labor in  
the mines."  
—G. F. B.

Gifts that grow are best.  
Hands that bless are blest.  
Plant!  
Life does the rest!

## Correspondence

### What Determines the Part of Speech?

To the Editor:

A correspondent in the April number seems to object to the principle that the part of speech of a word is determined by its use in a sentence. For the benefit of readers who may not have the last issue at hand I will quote what he says:

"In the sentence, Black is a color, the word *black* is the subject of the sentence, therefore a noun. Logical isn't it? In the sentence, He is a good boy, *he* is the subject of the sentence, therefore a noun. Simple isn't it? \* \* \* If the principle be true, words cannot be classified at all. For if their classification depends upon their use, then those used alike must be in the same class; and in, This is my hat, This is John's hat, This is a black hat, the words *my*, *John's* and *black*, must be put in the same class because each limits the noun hat. If the dictum be true the dictionaries are all wrong; for they classify words entirely without reference to their use or function. \* \* \* In fact there is not a valid argument in support of the proposition, not one. How easy you can dispose of grammar if you don't care about telling the truth!"

At first reading one might suppose the writer of the above to be serious; and I propose to answer his points on the assumption that he is in earnest.

In the sentence, Black is a color, the problem is whether the word *black* is a noun; or, has its commoner use as an adjective. An adjective is not used as the subject of a sentence, and a noun is so used, then *black*, being a subject, is not an adjective, but a noun.

Definitions are also based upon the use of words in conveying thought. A noun is a word used as the name by which a person or thing may be called, and the word *black* is so used, therefore it is a noun. A word can not be a

"Part-of-speech;" unless it is a part of speech, and it can not be a part of speech unless it is so used. The writer illustrates very vividly how illogical a strict logician can be, when he pretends to insist that the word *black*, must be distinguished from every other part of speech. Suppose he and I were trying to tell whether a certain animal, seen in the distance, were a horse or a cow, and I should say: "It must be a cow for it has horns." Of course the gentleman's logic would impel him to say: "Indeed! A brass band has horns, hence a brass band is a cow!"

The words, *my*, *John's* and *black*, in the sentences quoted, are used differently although they have one common use in limiting a noun. *John's* is used as a name of a person, *my* is used as a substitute for a noun, and *black* is used to describe. How delightfully Mr. Taylor shows up the absurdity of confusing general and specific rules when he concludes that if adjectives limit nouns, then all words that limit nouns must be called adjectives! It is the specific use that makes a special class. Prof. Patrick distinguishes verbals from verbs, and then distinguishes the infinitive verbal from the participle verbal; and closes with the principle, "Use, not form, determines the part of speech to which a word belongs in a given sentence."

An ironical passage in the article illustrates clearly the objectionable practice of sending children to the dictionary to find the part of speech of a word in a sentence. Of course no dictionary could illustrate the various ways in which even the commonest words can be used in sentences. Words are classified in dictionaries according to their customary uses, as nouns, verbs, etc., and illustrative sentences are given, showing the uses which determine the classification of those words. Take the sentence, "How easy one can dispose of grammar," in which Mr. Taylor, purposely of course, uses the word *easy* as an adverb. He does this, no doubt, to show how easily one can avoid mistakes by first determining the use of the word, and letting this use determine the class and form. Disregarding use, and by looking only at the "a" or "n" after the word in the dictionary, the word *easy* is seen to be an adjective; but a further reading shows how the word is used in sentences, how this use determines it to be an adjective, and that when it changes to an adverbial use it is changed as to class and form.

The article also shows forcibly the fallacy of asking for the part of speech of a word not in a sentence. I quote again: "There is no word in good use in English that scores of men can not classify without its being used at all—if it be defined. Do you see the point?" Of course the point is that the definition will indicate the use, and include an illustrative sentence, in which the word is used.

Perhaps the best thing about the article is that it shows how some men will answer almost anything offhand, without waiting to find out whether they understand it or not. For instance, a questioner asks: "What part of speech is the word *easy*—" and scores of men

answer: "An adjective!" and then the questioner continues—"in the sentence I am now repeating?" And then—but you know what happens then.

CHESTER W. SMITH,  
Kilbourn, Wis., April 26, 1903.

"Send me the names and addresses of any young man or woman who is a graduate of a high school, or a common school, or who holds a teacher's certificate, so that I may call during summer or write to them."

To the Editor:

Is the foregoing good English? If not, what is wrong with it? Does it measure up to the standard of correct language which we ought to find in literature which emanates from a normal school? X Y. Z., Waupaca, Wis.

- (1) No. (2) Ask the boys and girls in a country school or a seventh grade.  
(3) No.

In writing a sum of money, should two ciphers be written for cents when it consists of a whole number of dollars? Would you teach children to write \$50 or \$50.00?

Freeport, Ill.

A SUBSCRIBER.

Either or both. When such a sum occurs in a sentence it may be written without the extra zeros and without a period, and this has the advantage of brevity and simplicity. When written as a footing use the ciphers, thus:

\$21.74
23.26
—
\$50.90

When written in an account, that is, in a ruled money column, omit the ciphers, but in a note, check or receipt it is well to use the ciphers, written smaller and above the line, with a mark under them—this to prevent uncertainty and to make it less easy to change the amount.

## The Clearing House.

TO SELL, BUY OR EXCHANGE.

[When you want to buy at a bargain or to sell a book or apparatus which you no longer need, write out your want, briefly stated, and for each insertion desired send as many cents as your notice contains words. This is merely a nominal rate for space and is open only to actual teachers and subscribers.]

FOR SALE, CHEAP—Library of American History by Ellis, 9 volumes, half morocco, new.—Z, this office.

FOR SALE—Encyclopedia Britannica, Americanized Edition. 12 volumes. Half morocco. Regular price, \$60. Now on sale at a bargain. For particulars address X, this office.



## The Bulletin.

If you are going to Boston and want to go with a party, see the ad. of the Outing Club in this issue.

Send for free sample of our report card, for common school or high school. Our song book is unexcelled; for a sample copy send five two-cent stamps.

The Columbia University Summer school offers courses in school music this year for the first time. This is a step toward bringing the great institutions of our country into touch with the practical problems of education in the public schools.

Scribner's Private School Primer is a collection of fac similes from old primers. It will pleasantly remind middle-aged people of their childhood, and will show the children the kind of books their parents had. A postal card request to Scribner's Magazine will bring it.

C. A. Fullerton of the State Normal School at Cedar Falls, Iowa, published a music book for the public schools about two years ago. It has reached the sixth edition. It costs 30c net. It is precisely what is needed in introducing music into the schools. 26 counties in Iowa, 7 State Normal Schools are using it. Write the author at Cedar Falls.

Supt B. C. Moore, of Lewistown, Illinois, writes to say that the testimonial printed over his name concerning the alleged solution of the problem of trisecting an angle, discussed in this journal last month, is fraudulent. He states that in writing it he used an "if"; the parties distributing the circular omitted the "if," and thus have done Mr. Moore an injustice.

Teachers' salaries are gradually on the up-grade in Iowa. There is some agitation over the question of ten months of school each year; not to do more work but to take more time to the work. This is in the opposite direction from Supt. Greenwood and others who are claiming that we now put eight years upon what might be done in seven.

Through the efforts of Supt. Lapham and the Shakespearean Club of Osage, Iowa, prizes will be offered at the county fair for industrial work from country and town schools. The girls will compete in sewing and baking; the boys are to make certain articles in wood and to make a display of vegetables raised on ten square rods of ground. Also an account book showing itemized accounts for three months will be asked for from both boys and girls. A special prize is offered to the town showing the best all-round industrial display. Most of the work will be done at home by the pupils, as there is not equipment in the schools for the work demanded.

A new mental Arithmetic on a unique plan is just from the press. Send 10 cents for a sample copy. Just the thing for a review drill with a high school or upper grade class. Address S. Y. Gillan & Co., Milwaukee.

If the address of President Seerley at Sioux City on the Business Side of the Teachers' Life could be read by every school board and county superintendent it would have a great influence in helping along the battle for higher salaries for teachers. It was not based on theories but on facts gathered from successful teachers. The showing for saving anything for the rainy day is discouraging.

Lessons in Mathematical Geography by S. Y. Gillan, Milwaukee, is a unique presentation of this interesting subject. The work in Mathematical geography as outlined for Illinois, Wisconsin and many of the schools of Iowa and Missouri follows the plan of the book. One superintendent ordered 300 copies for use in his eighth grade. Price 10 cents, or \$1.00 a dozen.

The University of Missouri offers an exceptionally attractive summer session, beginning June 1, and divided into two courses of six and a half weeks each. Reduced rates will be given on railroads. As the county institute law has been repealed, this school will doubtless attract an unusually large number of teachers. J. C. Jones, of Columbia, Mo., has the business management of the school.

Concerning the meeting of the N. E. A. at Boston, July 6-10, the public as well as the teachers should know—

1. That the rate is one fare (plus \$2.00) for the round trip.
2. That ticket extension is to August 31.
3. That there are many points of historic and literary interest in and about Boston.
4. That the facilities for visiting all important places will be adequate.
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The Wisconsin Outing Club will have several car parties for the N. E. A. at Boston. One will leave from Madison, one from Milwaukee, one from Manitowoc, one from Duluth, and one from So. Minnesota and one from South Dakota. Remember that we furnish everything from start to finish and at a much lower rate than you can get it elsewhere. Write to J. M. Turner, 400 E. Water street, Milwaukee, for full particulars. Wisconsin Outing Club, 808 Goldsmith building, Milwaukee.

Drill Map Exercises for Schools, by S. Y. Gillan, is a new device for teaching facts of form, size and position by a unique method. It consists principally of a surface to be used as an easel and to which the parts of a dissected map may be intantly attached by a strikingly simple method, and from which they may be just as readily detached. Map of the United States in a neat box, with a manual of instructions and interesting exercises, \$1.25, express prepaid. Send for a set, and if not satisfactory the money will be returned. Address S. Y. Gillan & Co., Milwaukee, Wis.

Gen. John C. Moore, a veteran teacher of Mexia, Texas, says: The hydraulic miner, by concentrating the power of a small stream, can move a mountain. The curricula of some common schools represent the miner with a sprayer screwed on his nozzle.

When we look over the elaborate course of study in some of our Texas public schools, we find ourself in the mental dilemma of the old lady of whom it is said that when she saw a monkey for the first time, she exclaimed: "Well! I wonder what they'll make next."

One of the most encouraging trends in educational matters in this section is the tendency toward a more practical and less theoretical course of instruction in the public schools. We see grounds for hoping that the scholastic pendulum has reached the extremity of its arc in the direction of the text-book craze, and will soon swing back to a normal point of common sense.

Some ten years ago it became quite a fad

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among Texas farmers to rent out their lands and move their families to towns and secure, as they supposed, better educational and social advantages. This proved fatal to many rural schools, and did not always improve the rustic moral and social habits of the children. But a lesson has been learned, and many parents are returning to their farms.

A banquet will be given by the Faculty of the University of Wisconsin to the high school principals, Friday evening, May 29. The Inter-Scholastic field meet occurs the next day.

### St. Louis Notes.

Mrs. Rose E. Fanning, principal of the Pestalozzi school, St. Louis, the first pupil of the Normal school enrolled by Richard Edwards more than forty years ago, died recently. She performed her school duties up to within a few weeks of her death. Mrs. Fanning was noted for her charities in her district and elsewhere, spending freely her earnings in this way. She was a prominent promoter of the Annuity Association of St. Louis.

The greatest exposition that the world has ever known will be opened in St. Louis next May. A building covering acres of ground, of charming architectural design, admirably adapted to the display of educational work, with parlors and waiting rooms for teachers and those interested in education is under construction. The educational influence of this

fair will appeal to more than the adult population. There will be camps and quarters for schools and liberal rates for children.

The typewriter as an educational experiment is being tried in ten public schools of St. Louis. The innovation has been neither authorized nor forbidden by the board or the superintendent. The machines are loaned to the principals, and are in the following schools: Blair, 3 machines; Field, four; Eliot, seven; Hodgen, four; Irving, six; Emerson, six; Elleardville, one; Riddick, two; Marshall, one; Washington, two.

The method of their use varies; here is one way: Those who have been neither absent nor tardy during the month, excused during the session, have not failed in lessons, or been guilty of misconduct are put on a list from which the typewriters are chosen. The work is eagerly taken up by the pupils and pursued during the time of the practice, and at the end of the time given up with regret. It is not allowed to interfere with the recitation or any school duty of the pupil.

The touch movement is used in which all the fingers of each hand are brought into play. The new pupils are started by the retiring ones, so that only the most general oversight on the part of the principal is necessary. After the movement lessons, letters, compositions and other kinds of school work are written by the pupils.

The St. Louis Society of Pedagogy, the largest and most enthusiastic body of educational workers in the West, concluded its meetings for this year April 18. The past year has been one of the most successful in its career of more than thirty years. Thirteen hundred teachers of St. Louis and surrounding towns constitute its membership. The meetings are held twice a month in the high school building.

President A. R. Morgan, of the Sherman school, has conducted the society during the past two years. He has been unremitting in his labors, successful in what he has undertaken, and leaves the society keyed up to a high pitch of professional interest. Edwin L. Luckey, of the John Marshall school, is president of the society for next year. St. Louis, during the World's Fair year, will be the center of the universe, the Society of Pedagogy will be the educational center of St. Louis, and Mr. Luckey the center of the society.

The Schoolmasters' Club will continue its meetings through May. This small body, fifteen in number, meets every two weeks at the Planters' Hotel, and, after a banquet, spends the evening in discussing topics of general interest. It was organized two years ago under the initiative of W. W. Walters, with eleven associates. These men were mostly new to the service here, felt a little strange, had some ideas which were struggling for expression, and a good deal of the social instinct in their composition demanding companionship.

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